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Descripteur(s) : Projet de recherche • Subvention de recherche • Répertoire • Universitaire (Ordre d'enseignement)

Les différents projets de recherche subventionnés ou commandités durant l'année universitaire 1988-1989 à l'Université Concordia sont répertoriés dans ce document. Les projets sont regroupés par faculté et, pour chacun, les renseignements suivants sont fournis : le titre du projet, le nom du responsable du projet à l'Université, le nom de l'organisme subventionnaire et le type de subvention accordée.

Type de document :

Directory Of Funded Research Activities

1989-90

OFFICE OF RESEARCH SERVICES

Concordia
UNIVERSITY

With approximately 26,000 students, 2,700 faculty and staff, and more than 75,000 alumni worldwide, Montreal's Concordia University is one of Canada's largest and most dynamic centres of higher learning.

Students can choose from 160 undergraduate and graduate programmes in four Faculties: Commerce and Administration, Fine Arts, Engineering and Computer Science and Arts and Science. Integrated within the Faculties are seven colleges and more than a dozen specialized research centres.

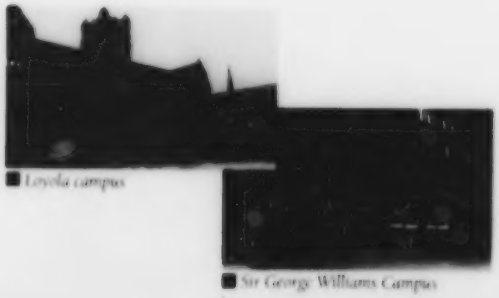
From its two founding institutions Loyola College (1896) and Sir George Williams University (1873) Concordia has inherited a tradition of superior teaching supported by the best possible scholarship, creative activity, research and service to society. Each year the University awards more than 3,600 degrees and diplomas.

Although the majority of its students are recent CEGEP graduates, Concordia maintains an openness to part-time studies, flexible class schedules and an interdisciplinary approach to learning for women and men of all ages and backgrounds. In fact, we are recognized as having one of Canada's most welcoming open-door policies towards senior students (those aged 55 and over).

The University has two campuses: Sir George Williams, downtown, with 38 buildings spread over 13 city blocks; and Loyola, about 7 kilometers away in a residential setting on 46 acres in west-end Montreal. That campus has 34 buildings.

Concordia's hallmark has always been community involvement. Many of the part-time faculty are professionals drawn from the artistic community and the business world. The full- time faculty are engaged in a wide range of social, cultural and economic endeavours that help to enrich the lives of people in Montreal, across Canada and abroad. In financial terms, the research grants allocated to Concordia have increased enormously during the 16 years since the University was established, up from $1.3 million in 1974 to $15.4 million this past year.

Ever-responsive to Montreal's bilingual and multicultural environment, Concordia continues to offer a wide range of community services from business and professional seminars to cultural and recreational activities.



Loyola campus

Sir George Williams Campus

CONCORDIA UNIVERSITY

9170604

DIRECTORY OF FUNDED RESEARCH ACTIVITIES 1989-90

Additional information on Concordia's research activities is available from

Office of Research Services
CONCORDIA UNIVERSITY
1455 de Maisonneuve Blvd. W.
Montréal, Québec
H3G 1M8

TABLE OF CONTENTS

1 Preface

2 Introduction

4 Glossary

6 Statistical Data

11 Funded Research Centres

24 Faculty of Arts & Science

38 Faculty of Commerce & Administration

64 Faculty of Engineering & Computer Science

89 Faculty of Fine Arts

The third edition of Concordia University's Directory of Funded Research Activities for the 1989-1990 year, will prove, we trust, to be of particular interest to those following Concordia's progress in our funding of research, scholarly and creative activities.

This year, for the first time, we are including a short profile of the research interests and expertise of some of our active researchers. This will appear before the listing of the funded research projects in an italicized form.

Another new feature in this year's edition of the Directory is the highlighting of some of our more prominent Research Centres. Nine of these Research Centres have been featured here, and we shall highlight other Centres in future editions.

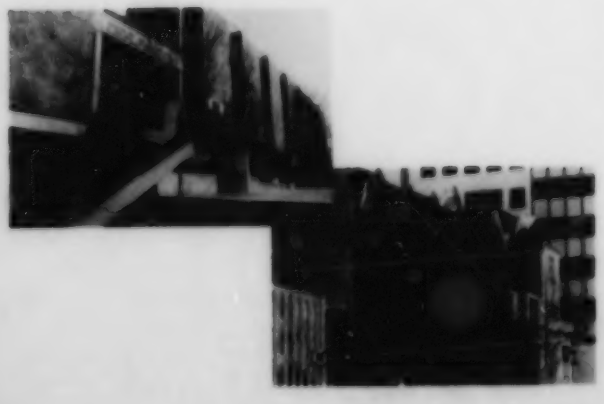
We continue to stress that the activities listed in this Directory represent only one element of our research endeavours; publications, exhibitions and performance activities are also a measure of our strength and capabilities. Lists of these accomplishments are in the annual reports of individual Faculties.

The overall increase in funded research over the previous year was 23.9%. Such growth was partly due to the significant success rate experienced with the Federal granting agencies and the U.S. Department of Health and Human Services.

As was noted last year, the activities of the Industrial Liaison Office are resulting in an increase in contract activities noticeable in both government and industrial contracts. As we begin to feel the effects of a tight economy, we at Concordia will be looking at ways and means of enhancing our research activities.

I would like to thank Christine Tawtel, of this office, who has assumed overall responsibility and coordination for the Directory this year as well as Mike Hainsworth of Marketing Communication and Laurie Zack of Public Relations who assisted in the presentation of the Directory and to Ken Whittingham, of Public Relations, who offered financial assistance with the Directory.

Lastly, I cannot overlook the continued support and enthusiasm of our researchers who make this all possible. ■



Audrey J. Williams
Director
Office of Research Services

March 1991

The publication date of this Directory marks a significant point in the development at Concordia of research, scholarly and artistic activities. The significant growth from 1988-89 to 1989-90 of funding to faculty for curiosity-driven and contract research is one indicator of the development and maturation of a number of areas of research strength at the University. The figures in this Directory parallel other evidence of development, such as increased publications and exhibitions by members of Concordia's research community, as indicated by the annual reports of the different Faculties. The benefits of this growth and maturation is the enhancement of our capacity to pursue our basic mission to discover, critique and disseminate to our colleagues and students knowledge about, and perceptions of the world in which we live.

The academic year 1989-90, however, was also a foreboding one for Concordia and for other Quebec and Canadian universities. The Commission of Inquiry on University Research, struck by the Royal Society of Canada, conducted hearings across Canada. The Commission's initial terms of reference and questions represented challenges to the basic mission of universities and to the role of curiosity-driven university-based research and artistic activity. The Commission's queries questioned the priorities of the federal granting agencies and raised the spector of skewing our research to the purposes of government and industry. Particularly alarming was a proposal for differentiating, and differently supporting, institutions designated as research-universities. Other universities would not retain a mandate for major research activity or graduate studies. The Commission's initial presuppositions appeared to have their origins in a stereotypical and largely unfounded view of Canadian universities as operating in a manner isolated from, and unresponsive to, the communities of which they were a part.

Concordia, along with other Canadian universities, forcefully put forward a more balanced and nuanced vision of the mission of Canadian universities and of their social role. Most universities eschewed the form of differentiation presented by the Commission and argued that, in the Canadian context, such a scheme would result in the end in stodgy, protected enclaves of research. The draft report of the Commission, issued in December of 1990, shows that our message was clearly heard.

The foreboding, however, is not entirely dispelled by the Commission's draft report. The fact remains that granting agencies are increasingly unable to respond to the demands made on their funds. The success rate of applicants to the SSHRC, for example, has fallen almost thirty percent since 1978, approximately ten percent in the last year alone (1990-91). Next year's Directory will show the resulting negative effects on Concordia's researchers. NSERC, too, is seriously underfunded, although less so than SSHRC. FCAR has cancelled its General Research Grant to Quebec universities. The Royal Society's Commission expects that even with significant additions to the budgets of the federal granting agencies the success rates of applicants to the agencies will likely have to remain at approximately thirty per cent.

The lesson to be drawn by Concordia is clear. Only our researchers and research units of considerable strength will regularly receive external support for their research activities. We must, therefore, endeavour to develop strategies which identify potential areas of strength and devote efforts to promote and hasten their further development. In addition, we must find ways of supporting the continued development of research in other quarters, so that new areas of potential strength will emerge. In the face of the challenges presented by the context in which we operate, we have an opportunity to foster the pursuit of research at Concordia. I do not believe, however, that this opportunity will long remain open to us if we do not seize upon it now. ■

As always, this Directory attests to the devoted efforts of all active researchers and artists at Concordia, and to the support of the University, the single largest supporter of research activities at Concordia. All researchers will no doubt wish to join me in expressing appreciation for the untiring work of the Office of Research Services and of the Industrial Liaison Office. ■

Jack N. Lightstone
Associate Vice-Rector, Academic (Research)

March 1991

01	Contract
02	Operating Grant
03	Equipment Grant
20	Miscellaneous Awards
(EXT)	External
(INT)	Internal
ANOCC	Anonymous, Companies, Corporations, Canadian
ANONC	Anonymous, Non-Canadian
ANOFC	Anonymous, Foundations, Associations, Societies Canadian
ANOPC	Anonymous Particular, Canadian
ARNQC	Archives nationales du Québec
BC	Bell Canada
BENDA	Bendix Avelex Inc
BNR	Bell Northern Research Ltd
BOMC	Bombardier Company
BROME	Ville de Brome Lake
CAE	CAE Electronics Ltd
CASA	Concordia University (CASA)
CC	Canada Council
CDE	Canada Department of Environment
CDEA	Canada Department of External Affairs
CDHW	Canada Department of Health & Welfare
CDIAB	Canadian Diabetes Association
CDND	Canada Department of National Defence
CDOT	Canada Department of Transport
CEIBA	CEIBA-GEIGY Canada Ltée
CEMR	Canada Department of Energy, Mines & Resources
CLHIA	Canadian Life-Health Insurance Assoc. Inc.
CMICC	Canadian Microelectronics Corporation
CONU	Concordia University (INTERNAL)
CQRS	Conseil Quebecois de la recherche sociale
CWARC	Canadian Workplace Automation Research Centre
DCCA	Department of Consumer & Corporate Affairs
ELIL	Eli Lilly Canada Inc
EPTM	Ecole Polytechnique de Montreal
FCAR	Fonds pour la formation de chercheurs et l'aide à la recherche
FORIN	Forintek Canada Corporation
FRSQ	Fonds de la recherche en santé du Québec
GAMO	Gamonvan Technologies Ltée

CONT'D

HIMH	Hannah Institute for the History of Medicine
IDLA	Institut de l'amiante
IRSST	Institut de recherche en santé et en sécurité de travail du Québec
MAYA	Maya Heat Transfer Technologies Ltd.
MCLAN	McLean Foundation
MERQ	Québec Ministère de l'énergie et ressources
MESS	Québec Ministère de l'enseignment supérieur et de la science
MGU	McGill University
MRC	Medical Research Council
MRIAI	Québec Ministère des relations internationales et affaires intergouvernementals
MUSCI	Musée de la civilisation
NIMH	National Institute of Mental Health
NORTEL	Northern Telecom
NRC	National Research Council
NSERC	Natural Sciences and Engineering Research Council
ONQ	ONQ Corporation
QUEEN	Queen's University
PFIZ	Pfizer Cie
PHHT	P & H Hillhouse Trust
POC	Canada Department of Fisheries and Oceans
PRATT	Pratt & Whitney Canada Inc.
PSBGM	Protestant School Board of Greater Montreal
PULTR	Pultrall Inc.
RITE	Ritepro Inc.
SANIM	Sani Mobile Inc.
SC	Shell Canada Ltd.
SCVC	Société des comptables en management du Canada
SNCD	SNC Defense Products Limited
SPAR	Spar Aerospace Ltd.
SQUIB	Squibb Canada Inc.
SRCFC	Scottish Rite Charitable Foundation of Canada
SSHRC	Social Sciences and Humanities Research Council
TBC	The British Council
TELC	Teleglobe Canada
TOSH	Toshiba of Canada Limited
USHEW	U.S. Department of Health & Human Services
UT	University of Toronto
WTGF	William T. Grant Foundation
WUSC	World University Services of Canada
ZUNIQ	Zuniq Corporation

TABLE I

DEPARTMENTAL RESEARCH FUNDING 1989-90

ADMINISTRATION	FULL-TIME FACULTY	TOTAL
Library and Archives	31	$ 97,251
Research Administration		221,538
TOTAL FOR ADMINISTRATION	31	$ 318,789

* Administration includes research activities in Library, Archives, support for translation services for research projects, and CRIM contributions.

ARTS & SCIENCE	FULL-TIME FACULTY	TOTAL
Dean of Arts and Science		$ 21,787
Applied Social Science	9	3,230
Biology	27	983,045
Centre de recherche en histoire	1	58,700
Chemistry	24	1,283,091
Communication Studies	19	29,602
Economics	28	81,742
Education	29	210,430
English	35	102,172
Etudes françaises	25	91,052
Exercise Science	8	18,927
Geography	12	10,635
Geology	5	13,600
History	26	220,569
Journalism	6	5,500
Leisure Studies	3	5,000
Library Studies	3	3,467
Mathematics	37	328,438
Modern Lan[illegible]s and Linguistics	12	3,723
Philosoph[illegible]	20	22,231
Physics	13	110,738
Political Science	21	83,718
Psychology	44	2,840,572
Religion	12	43,056
School of Community and Public Affairs (SCPA)	1	9,169
Simone de Beauvoir Institute	1	44,797
Sociology & Anthropology	28	249,030
TESL	12	40,482
Theological Studies	7	3,600
TOTAL FOR ARTS AND SCIENCE	468.5	$6,921,903

TABLE 1 CONT'D

COMMERCE & ADMINISTRATION	FULL-TIME FACULTY	TOTAL
Dean of Commerce		$2,861
Accountancy	33	18,919
Decision Sciences & Management Information Systems (DSMIS)	21	131,148
Finance	31	109,063
Management	37	196,449
Marketing	20	100,217
TOTAL FOR COMMERCE AND ADMINISTRATION	**142**	**$ 558,657**

ENGINEERING & COMPUTER SCIENCE	FULL-TIME FACULTY	TOTAL
Dean of Engineering		$ 50,720
Centre for Building Studies	14	1,125,191
Civil Engineering	14	375,896
Computer Science	27	1,221,156
Electrical and Computer Engineering	25	1,538,177
Mechanical Engineering	26	3,207,287
TOTAL FOR ENGINEERING AND COMPUTER SCIENCE	**106**	**$ 7,518,427**

FINE ARTS	FULL-TIME FACULTY	TOTAL
Dean of Fine Arts		$5,709
Art Education & Art Therapy	9	6,700
Art Gallery	1	22,570
Art History	11	23,828
Cinema	9	6,000
Design Art	7	400
Music	1	5,270
Painting and Drawing	13	2,926
Printmaking & Photography	8	2,602
Sculpture, Ceramics and Fibres	6	2,615
Theatre	11	13,211
TOTAL FOR FINE ARTS	**86**	**$ 91,831**

[redacted] UNIVERSITY

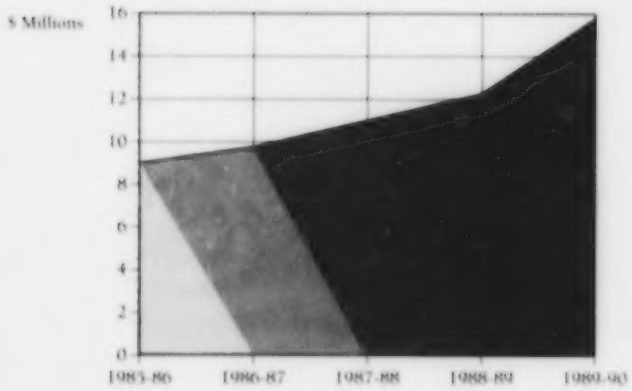
TABLE II

FUNDING OF RESEARCH GRANTS & CONTRACTS

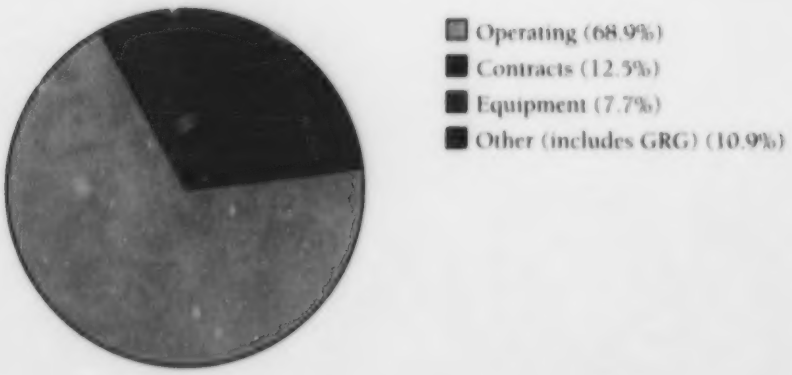
FIVE YEAR COMPARISON 1985-1990

SOURCE OF FUNDS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Canadian Companies and Corporations	378,037	978,853	1,156,509	808,185	1,126,957
Canadian Associations, Foundations and Societies	327830	253,391	490,086	585,189	641,901
NSERC	3,877,008	4,278,813	4,658,637	5,072,397	5,955,268
SSHRC	533,602	498,716	814,464	842,201	1,203,847
Other Federal Government Departments	924,516	1,069,724	783,331	918,972	1,508,142
Québec Government	2653,259	2,431,681	2,896,760	2,932,635	4,112,177
Non-Canadian Organizations	13,460	37,894	39,095	63,042	45,536
United States Government	67,718	212,420	197,487	474,157	582,727
Other Sources	54,810	84,242	128,044	156,966	233,052
TOTAL GRANTS AND CONTRACTS	8,830,240	9,845,694	11,144,413	12,455,744	15,409,607
Annual % Increase	5.9%	11.5%	13.2%	11.8%	23.7%
Grants	$8,096,256	$8,554,816	$9,499,950	$11,346,421	$13,483,446
Contracts	$ 733,984	$1,290,878	$1,644,463	$ 1,109,323	$ 1,926,161

FIVE YEAR SUMMARY RESEARCH GRANTS & CONTRACTS *1985-1990*



[illegible] *1989-1990*



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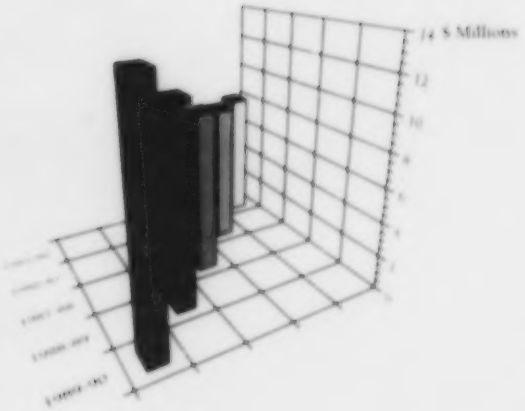

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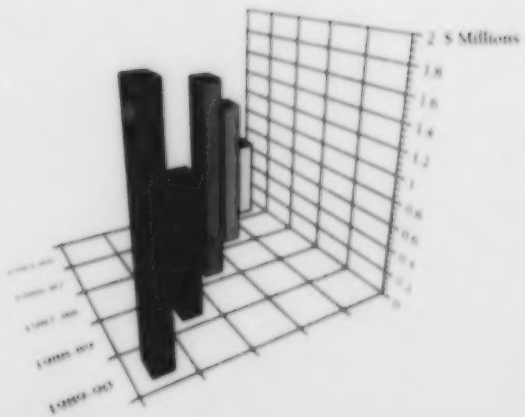


At the newly formed Centre for Algebra, Number Theory and Computation (CICMA), computers are used to solve long-standing problems in classical pure mathematics. High powered theoretical notions are tackled using the speed and efficiency of computer technology.

The Centre is part of a recent trend that has seen an enormous shift among mathematicians to use computers for calculations and for solving highly complex problems.

CICMA Technician at CICMA's New Computer Facilities

By bringing together the two fields of mathematics and computer science, both disciplines are benefiting from the mutual stimulus. Mathematicians are able to solve their problems much faster and more efficiently with the use of computers; computer scientists have the challenge of applying computer skills to explore high-powered theoretical notions in mathematics.

The Centre was started in 1989 by a group of Concordia, McGill and Laval researchers who had been working together for 10 years. In 1990, a Centre grant was received from the Fonds pour la formation de chercheurs et l'aide à la recherche (FCAR) as well as funds from the Natural Sciences and Engineering Research Council (NSERC), allowing the formal launching of the Centre, which is now housed at Concordia University.

Three teams of researchers work at the Centre, one in algebra and number theory, the other two in computer science. The algebra and number theory team consists of Drs. Chris Cummins, and Hershy Kisilevsky of Concordia; Drs. John Labute, Ram Murty and Peter Russell of McGill; and Dr. Claude Levesque of Laval. Dr. Kisilevsky is also the Centre's Director.

One of the computer science teams is headed by Drs. John McKay and David Ford of Concordia, and includes co-researchers from France and Germany.

Another computer science team is headed by Dr. Clement Lam of Concordia. Just prior to the Centre being formed, Dr. Lam and Dr. Murty received widespread recognition for solving outstanding problems in theoretical mathematics. Dr. Lam used one of the fastest supercomputers on earth to explore a thousand trillion possible combinations to prove that a certain type of finite geometry known as a projective plane of order 10 cannot exist. The problem had stumped mathematicians since the 1700s.

Their work was widely cited in publications such as the *New York Times* and *Scientific American* - a promising start for researchers at this newly formed Centre. ■

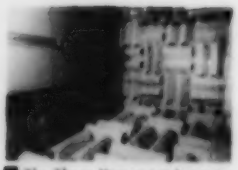
Students with Visitor Dr. François Dorais

The Centre for Building Studies (CBS) at Concordia University serves as a major resource for the construction industry in Canada. Research at the Centre generates technological know-how to create higher quality buildings at a lower cost.

As the first in the country to offer both undergraduate and graduate programmes in Building Engineering, the Centre is also a pioneer in education.

A $1.5 million grant from the Natural Sciences and Engineering Research Council of Canada (NSERC) allowed the creation of the Centre in 1977. Success has followed ever since.

By 1989, The Centre could look back on $11 million of funds from grants and contracts. This included a $300,000 Centre de Recherche grant in 1980 from the Fonds pour la formation et l'aide à la recherche (FCAR) and a $792,000 Actions Structurantes grant in 1987; both from the Quebec government.



The Three-Dimension Intensity Probe on the Automatic Traversing Frame Within the Hemi-Anechoic Chamber

The Centre offers expertise to government and industry in all aspects of Building Engineering, from the planning, design and construction of buildings, to their operation, maintenance and renovation. Among researchers, specialties include energy analysis, the interior design of buildings, and the "building envelope", which separates the indoor and outdoor environments. Accomplishments range from novel earthquake resistance technology to new plastics for energy storage.

Government views the Centre as an agent in developing the construction industry to compete on world markets. The Centre advises ministries about matters relating to construction and participates in key bodies such as the Construction Industry Development Council. In 1988, the National Research Council based two of its officers from the Construction Technology Advisors at the Centre. The function of these advisors is to transfer needed technology to industry.

Research goals at the CBS are defined in consultation with the building industry. Contract work is done for industries such as CIL Inc., Domtar Inc., Gaz Métropolitain, Lavalin, and the SNC Group of Montréal, as well as for Hydro-Québec, the City of Montréal, and other agencies of the provincial and federal governments. Specialized product testing and performance evaluation are typical projects.

The Centre links traditionally separate disciplines. Expertise is brought together from Civil, Mechanical, Chemical and Computer Engineering, as well as from Architecture. Information is also absorbed from the medical and psychological professions to learn what makes a building comfortable.

More than 40 academics, technicians and administrative staff work at the Centre along with the undergraduate and graduate students. Researchers include Dr. Paul Fazio, who is the founder and Director; Dr. Ted Stathopoulos, Dr. Cedric Marsh, Dr. Kinh Ha on Building Structures; Dr. Patrick Saathoff, and Dr. Dorel Feldman on Building Science; Dr. Richard Guy on Acoustics; Drs. Osama Moselhi and Sabah Alkass on Construction Management; Dr. Claude Bédard on Computer Applications; Drs. Radu Zmeureanu, Fariborz Haghighat, Mohammed Zaheeruddin and Joseph Wang on Building Environment; Dr. Mohammed Boubekri on Architecture; and Drs. Paul Fazio and Andreas Athienitis on Building Envelope.

The topics explored include energy conservation, computer-aided building design, air quality, structural performance, building acoustics, wind engineering, new building materials, passive solar applications, heating, ventilation and air-conditioning, sealants and polymer applications, construction management, as well as natural gas technologies. ■

CONT'D

One of the Centre's numerous labs has been accredited by the Standards Council of Canada. The Thermal Analysis Lab carries out research and evaluation on the thermal and mechanical properties of building materials.

Computer needs are met by Sircon, a non-profit corporation affiliated with the Centre. Sircon has pioneered the use of computers for building design in Canada, developing software tailored to the industry's needs. Future plans include the development of video disks to train construction industry employees and the development of a prototype Canadian intelligent building at the world science fair in the year 2000. This project will be coordinated by Sircon.

Plans were recently set in motion to create a major lab for testing components of the building envelope. This was funded by $400,000 from NSERC and FCAR. A Multi-purpose Environmental Test Chamber is another major facility made possible by an NSERC grant.

The future looks bright as the Centre continues to pioneer research in the building industry, the largest single sector of the Canadian economy. ■

■ *Fibrescope is used to probe inside walls to locate design or construction defects as one of the projects in the new Building Envelope Laboratory.*

■ *Boundary layer wind tunnel of the Building Aerodynamics Laboratory.*

■ *Developing a Driverless Vehicule (AGV) for Automated Materials Handling in a Factory*

Researchers at the Centre for Industrial Control develop technology to automate and control industrial equipment. A multidisciplinary approach brings into play a variety of technologies from digital electronic computers to fluid control technologies.

Established in 1983 in the Mechanical Engineering Department of Concordia University, the Centre has focused its efforts on finding ways for machines to free people from stressful, dangerous, boring, time-consuming or physically-demanding work. In this way, costs are cut, and workers can turn their talents to more creative tasks.

Depending on the specific nature of the project, the researchers at the Centre frequently have to design and build a novel system, and test it under microcomputer control. One example is an automated workcell in which a robot arm is guided by a camera to carry out high-precision assembly work. Another example of the work of this Centre is the design and development of an automatic guided vehicle capable of transporting large objects through a warehouse. Other projects involve developing a low cost flight simulator for training pilots, and designing low cost fuel injection engines incorporating state-of-the-art electronic control.

Dr. Richard Cheng is the Director of the Centre and one of its major researchers. Other key researchers are Drs. Ahmad Hemami, Sinh Lequoc, Xavier Cyril, Tadeusz Krepec, Jaro Svoboda, Antonios Georgantas, Simon Poon, Ramesh Rajagopalan, Wuxian Wu, and Enzo Cavazzoni.

The Centre comprises five research laboratories funded by the Federal Network of Centres of Excellence, Natural Sciences and Engineering Research Council of Canada (NSERC), Fonds pour la Formation de chercheurs et l'aide à la recherche (FCAR), Canada Department of Energy, Mines and Resources and Hydrogen Industry Council, as well as industries such as Bendix Avelex, Festo Canada, and Pratt & Whitney Canada.

Since its establishment seven years ago, the Centre has been breaking new ground in adapting new technology to solve long-standing problems in industry which require equipment best suited for physically demanding tasks, accuracy, repeatability and speed. ■

■ *Developing an Intelligent Robotic Workcell under Simulated Industrial Conditions*

CONCAVE (CONcordia Computer Aided Vehicle Engineering Research Centre) has become a leader in the transfer of vehicle technology, earning high visibility in Quebec, Canada, the United States and around the world since it was founded in 1985.

Research at the Centre has generated $7.6 million in grants and contracts from government and industry between 1985-90 to improve design, efficiency, productivity, and operational safety of trucks, tractor-semitrailers, buses, railcars, tracked off-road vehicles, motorcycles, and snowmobiles. This is accomplished by an internationally renowned faculty using state-of-the-art equipment, computer, and vehicle test facilities.

The expertise and scientific activities of the researchers have drawn considerable interest from national and international government, university and industry networks. During CONCAVE's first five years, its faculty published over 350 articles in journals and conference proceedings, while also graduating 57 Master's and Doctoral students.

Multi-Axes Vibration Testing of an Off-Road Vehicule Cab Suspension

The Centre has a unique vehicle test facility with computer and other equipments valued at over $2 million. Five electro-hydraulic servo-actuators carry out vibration testing and real-time simulation on automobiles, trucks and buses. Attached to the test Centre is the instrumentation and measurement laboratory equipped with a data acquisition system, modal analyzer, FFT real-time analyzer, FM recorder, and various instruments. Computing facilities include a mainframe, microcomputers, workstations, minicomputers and engineering softwares for design, analysis and simulation.

The origin of CONCAVE spans the period from 1977 to 1985 when research on vehicle system design in Concordia's Mechanical Engineering Department began drawing the eye of Bombardier, Transport Canada, the Centre de Recherche Industrielle du Quebec (CRIQ), Transport Quebec, Department of National Defence, Government of Quebec - Fonds pour la Formation de chercheurs et l'aide à la recherche (FCAR) , and the Natural Sciences and Engineering Research Council (NSERC). Most of the research on vehicle systems then was conducted by Dr. Seshadri Sankar, who went on to form a research team and win a $1.3 million FCAR grant to launch the Centre.

The core researchers at CONCAVE now are Dr. Seshadri Sankar, who is also the Director, as well as Drs. Sam Osman, Tom Sankar, Rama Bhat, Subhash Rakheja, George Vatistas, Waiz Ahmed, Gerard Gouw, Valery Fabrikant, Voyer Latinovic, of Concordia University; and Dr. Marc Richard of Universite Laval. In addition, researchers Richard Cheng and Tad Krepec of Concordia University are collaborators on specific projects. Other industrial/para-governmental research collaborators include: Drs. Rao Dukkipati, National Research Council of Canada; Marc Thomas, Centre de recherche industrielle du Quebec; Mr. Paul Boileau, Institut de recherche en santé et en sécurité de travail du Québec; and Mr. Wayne Williams, Forestry Engineering Research Institute of Canada. The research team is backed by three visiting scholars, four postdoctorals, 15 research associates and assistants as well as 40 graduate students.

CONCAVE's mission is: to provide research and development leadership in transport technology. The objectives of the Centre are:

- Advancement of technology for safe and efficient transport systems.
- Training of graduate students and research professionals.
- Technology transfer to industries. ■

To fulfill these objectives, R&D activities are focused on vehicle dynamics and operational safety, design and analysis of transport systems and sub-systems, and energy efficiency and control technology in transport.

In vehicle dynamics and operational safety, researchers explore the stability of liquid and rigid cargo trucks/trailer combinations and wheel loads on pavements; the ride stability, curving and wheel/rail interaction of trains; off-road vehicle vibration and noise; and development of a heavy vehicle simulator for driver training and assessment.

In design and analysis of transport systems and sub-systems, they focus on vehicle suspension; shock, vibration and noise isolation; forced- and self-steering axles; development of anti-slosh devices and under-ride protection of road vehicles; engine and power transmission; structures and materials; and vehicle design software.

In energy efficiency and control technology in transport, work is done on fuel control systems such as fuel injection, methanol and alternate fuels; automated guided vehicles such as wheeled mobile robots; as well as microprocessor-based control systems, including heavy vehicle safety monitors and advanced suspension control.

A major project now underway is the development of computer-simulation software for the design of trucks that will remain stable despite shifts in their liquid load. This work is funded by Transport Canada, Transport Quebec and the Ontario Ministry of Transport.

Truck suspensions are being evaluated for Hydro-Quebec to increase driver comfort; field testing for Prevost Car is conducted to reduce structural vibration; experimental modal testing of Euro-Channel railcars for Bombardier is carried out for evaluating structural integrity; and earthquake certification products are being tested for Northern Telecom. Other research partners are Bell Helicopter, Remtec, Pratt and Whitney Canada, SPAR Aerospace, Shell Canada, the Ford Motor Co., and Via Rail.

These numerous collaborative efforts with industry and government have placed CONCAVE in the forefront of vehicle technology research and development in Canada today. ■

■ *Experimental Modal Testing of a Snowmobile Structure*

■ *Computer Aided Design of Vehicule Systems*

In only four years, the Centre for Pattern Recognition and Machine Intelligence (CENPARMI) has built an international reputation in developing computer technology to read and analyze typed, printed and handwritten characters.

Research of Theoretical and Practical Aspects in Computer Science

The expertise of CENPARMI researchers has led to breakthroughs in this challenging new field of Computer Science. Expertise from several disciplines has been brought together and encoded within computer programmes, which combined with scanners, can recognize hand-written characters and verify signatures such as those written on envelopes and bank cheques.

Many practical applications are resulting from work at the Centre. Computers have been marshalled to find flaws in construction materials, to analyze x-rays for the presence of medical abnormalities, to process images captured by satellites, and to evaluate computer programmes that mimic human experts.

With Dr. Ching Suen, a world authority in character recognition, as the Director, CENPARMI has 12 other core researchers: Drs. Vangular Alagar, Tien Bui, Penkaj Goyal, Rajagopalan Jayakumar, Tony Kasvand, Adam Krzyzak, Hon F. Li, Zi-Cai Li, Mitsu Okada, Regean Plamondon, Thiruvengadam Radhakrishnan and Rajan Shinghal. They are assisted by six post-doctoral fellows and 60 graduate students, of which 25 are doctoral students.

Before CENPARMI was founded in 1988, many of the core researchers had already been working for 15 years at Concordia University in this highly specialized field of Computer Science. Their work over the years has had many scientific, business and military applications, and has contributed to the development of computer techniques to analyze such diverse subjects as automatic document processing, signature verification, processing of satellite pictures, robotics, fingerprints, design of Very Large Scale Integrated Circuits (VLSI), mathematical simulation, information retrieval, logic and programming, analysis of algorithms, parallel and distributed processing and expert systems.

The most recent honour at the Centre was its inclusion in 1990 as part of the Federal Network of Centres of Excellence. As a result, CENPARMI is receiving $84,000 annually for four years to explore the use of computers to read, analyze and process documents such as letters, papers, forms, bank cheques and payment slips. Success in this project will allow records to be kept quickly and efficiently.

Projects such as these further CENPARMI's exploratory work in this new dimension of Computer Science research, which is rapidly making computers more and more "intelligent".

Evaluating Knowledge Bases in the Expert Systems Research Lab Supported by Bell Canada

Infant Laboratory: Computer Monitoring for Concept Formation Study

The goal of the Centre for Research in Human Development (CRDH) is the encouragement and support of research on individuals' response to their environment, focusing on patterns of social, emotional and cognitive growth. While the problems investigated are primarily "applied" in nature, relating directly to social problems and their solution, the character of much of the research is "basic", in that it relates to improving understanding of developmental processes in both normal and atypical populations. A further priority of the Centre is the development and improvement of research methodology for studying human development and social environments.

Funding for research at the Centre has climbed from $300,000 to over $1 million annually. In addition to centre infrastructure funds from Les Fonds pour la formation et l'aide à la recherche (FCAR), research funds are provided by les Fonds de la recherche en sante du Quebec (FRSQ), Conseil quebecois pour la recherche sociale (CQRS), Social Sciences and Humanities Research Council of Canada (SSHRC), CARNET, Health and Welfare Canada, and the National Institute of Mental Health (NIMH).

Research at the Centre focuses on three priority axes: normal development during childhood, atypical patterns of development, and adjustment and cognitive processes in aging. Ongoing research projects include studies on infant development; the origins and consequences of social stereotyping; the development of friendship and social competence; the development of "high risk" individuals from childhood into adolescence and adulthood; adjustment in the elderly as a function of socio-economic status; the effects of environmental differences in day-care settings on children's socialization; and the intellectual and social correlates of aging. The approach to research is multifaceted, integrating theoretical and methodological perspectives from within developmental, clinical, social and cognitive psychology, as well as from the fields of education and applied statistics.

Gender Concept Project: Visual Stimuli Creating

One of the major ongoing projects which receives over $300,000 of funding each year is the Concordia Longitudinal Risk Project. By following the development of 1,700 people from childhood to adulthood, Centre researchers are discovering the early risk factors for major mental and psychosocial disorders.

Work at the Centre has an impact on policy decisions by government and health care agencies, and institutions whose primary concerns are related to the well-being of children and the elderly. Research results are shared with the research community and the public to increase understanding of developmental issues, as well as to establish interdisciplinary research networks within the academic community.

The membership of CRDH includes researchers from various fields and backgrounds, including developmental, clinical and social psychologists, educational specialists, applied statisticians, and consultants in related fields of medicine, pediatrics and gerontology. Since its founding in 1981, the Centre has dramatically expanded its staff, funding, equipment and space. The original core researchers, Drs. Lisa Serbin, the Centre's Director, Anna-Beth Doyle, Dolores Gold, Alex Schwartzman, and Donna White have since been joined by Drs. Tannis Arbuckle-Maag, William Bukowski, and Diane Poulin-Dubois. As it approaches a second decade, the Centre has a staff of 20 research professionals, 12 supporting professionals, 25 technicians, and six supporting staff - as well as over 60 graduate student members.

Child Research Laboratory: Playroom Observation Deck

The Centre houses an outstanding Child Development Laboratory which opened in 1990, as part of an extensive complex of research labs. The 12,000 square foot facilities, located on the first, second and sixth floors of the ER Annex, include large observation playrooms with one-way windows, interview rooms, workrooms, a video-coding lab and reception areas. Equipment includes a local computer network linking researchers to each other and to the Concordia central computers, extensive video recording facilities, and a network of micro computers. ■

CENTRE FOR RESEARCH ON INORGANIC MATERIALS

Substantial progress has been made in the study and formation of inorganic materials since Concordia University established the Centre for Research on Inorganic Materials in 1985. Inorganic compounds with new properties are being produced through an interdisciplinary approach that draws on expertise in Physics, Electrical Engineering, Photo-Chemistry and inorganic synthesis. Laser, crystallographic, electro-chemical, catalyst characterization and testing equipment provide researchers with the tools to carry out their work.

Catalyst Testing Facilities

The central core of the Centre consists of four researchers. Dr. Raymond Le Van Mao works with heterogeneous catalysts and adsorbents, which are used in petroleum chemistry and in processes for converting natural gas and biomass into industrial chemicals. New zeolite and ceramic materials have been produced, some are made from asbestos and used as soil conditioners. He has major contracts with the petroleum and agricultural industries. Dr. Marcus Lawrence does research on the synthesis and characterization of II-VI semiconductors and also organic semiconductors in thin film form, for applications in the field of photovoltaic energy conversion. Dr. John Capobianco, a spectroscopist, studies potential vibronic solid state lasers as stable tunable light sources for high resolution spectroscopy in the visible and near infrared spectral range. Currently his activities are focused on the fundamental physics of lasers, the energy levels, radiative and non radiative transitions and sensitization of transition metal ions, and the relationship of these properties to achieving stimulated emission. Dr. Michael Bell, an electrochemist, is developing novel thin film materials for electrochemical applications such as gas and ion sensors.

The Centre was originated by Dr. Cooper Langford of Concordia's Chemistry Department with provincial government funding from an Actions Structurantes grant. Funding also comes from industry and the federal government. Along with Dr. Langford in the Centre, are Drs. P. Bird, Chair of the Chemistry Department, N. Serpone, a Chemistry professor, G. Denes, a Solid State research chemist, S. Misra, a Physics professor, and B. Lombos an Electrical Engineering professor. Drs. A. Shaver and J. Harrod from McGill University's Chemistry Department, and Dr. J.P. Dodelet from INRS are also members of the Centre. Their research is on photo-electrodes, photo-catalysts, photo-cells, inorganic conducting polymers and semi-conductors. Techniques include paramagnetic resonance, x-ray crystallography and Mossbauer studies. More than twelve graduate students, a secretary and a technician complete the Centre's team.

Semi-Conductor Studies

Laser Spectroscopy

[illegible] IN BEHAVIORAL NEUROBIOLOGY

The Centre for Studies in Behavioral Neurobiology (CSBN) is one of the few places in North America where so many researchers are pooling their talents to search for the brain mechanisms underlying behavior motivated by appetite. Their work is helping find solutions to the widespread social problem of addiction.

Studies are done at the Centre on normal appetitive behavior such as feedi[illegible] and drinking, as well as on abnormal behavior in [illegible]uch laboratory animals learn to stimulate their brain electrically or to provide themselves with addictive drugs.

By probing such abnormal behavior, the Centre's researchers are helping shed light on normal behavior.

Between 50 and 60 people work in the seven main laboratories of the Centre, where external research funding reaches $1 million annually. Leading this lively research community are the core researchers: Drs. Shimon Amir, Zalman Amit, Alain Gratton, Pierre-Paul Rompre, Peter Shizgal, Jane Stewart, the present Director, and Roy Wise, the Director until recently.

The approach at the Centre is interdisciplinary; neuroanatomical, neurochemical, electrophysiological, neuroendocrinological and neuropharmacological techniques combine to explore behavior. An example is the attempt to relate neurochemical events to behavior by use of gas chromatography and microdialysis techniques combined with high performance liquid chromatography.

The core researchers have each achieved significant international recognition for their work. Among the specific problems studied and the techniques used by them are:

■ *Brain Microdialysis for in vivo Monitoring of Neurochemical and Behavioral Activities Using Electrochemical detection*

- Studies by Dr. Amir of the central nervous system control of energy regulation and thermogenesis.
- Studies by Dr. Amit of the mechanisms of alcohol reward and of a treatment model for human alcoholics.
- Electrophysiological and in vivo voltametric techniques used by Dr. Gratton to study brain systems mediating reward.
- Studies by Dr. Rompre of the pharmacological and electrophysiological properties of central dopamine neurons and pathways mediating brain stimulation reward.
- Studies by Dr. Shizgal of the properties of the systems mediating brain stimulation reward.
- Studies by Dr. Stewart of the role of conditioning, stress and sensitization to opiate and stimulant drugs in drug self-administration and of the role of steroid hormones in developing motivated behavior.
- Studies by Dr. Wise of the anatomy and pharmacology of the rewarding effects of food, brain stimulation and addictive drugs. Dr. Wise also heads a node on Neural Regeneration and Function Recovery in one of the 14 Centres of Excellence formed recently by the federal government.

The roots of this highly successful research work reach back to 1982 when the Centre for Studies in Behavioral Neurobiology was founded through the linking of two programmes in Concordia's Psychology Department. One of these programmes, the Centre for Drug Dependence, had been started by Drs. Amit and Wise in 1972. The other programme, begun a few years later, was the specialization in Appetitive Motivation and Addiction within the doctoral programme. ■

CONT'D

The Centre gained funding from the Fonds pour la formation de chercheurs et l'aide à la recherche (FCAR) in 1982, with Drs. Amit, Wise, Shizgal and Stewart as the core researchers. They have since been joined by Drs. Amir, Gratton and Rompre.

Today, in addition to the FCAR centre infrastructure funds, the individual researchers receive funding for their work from a variety of sources includi g , Fonds de la recherche en sante du Quebec (FRSQ), the Natural Sciences and Engineering Research Council of Canada (NSERC), the Medical Research Council of Canada (MRC), and the National Institute on Drug Abuse (NIDA) of the United States.

The international research community has widely cited the work of these researchers on addiction to alcohol, cocaine and heroin. Biological psychiatrists have based pharmacological treatment programmes on some animal studies performed by Centre members.

As more is learned at the Centre about the neurobiology of basic appetitive behavior, further contributions can be made in solving drug and alcohol dependency problems. ■

■ *Studies of Thermogenesis in the Rat*

■ *Implantation of Guide Cannula for Behavioral Testing*

The Centre for Signal Processing and Communications (SIPCOM), founded in 1987, is engaged in fundamental and applied research in the highly specialized field of Electrical Engineering.

Digital Signal Processing Laboratory

Research at the Centre develops efficient ways of analyzing how messages are received and processed by all kinds of communications media - television, telephone, computer, satellite, as well as acoustic and sonar devices. Studies find new ways of testing these communications systems and of evolving improved methods to filter out distortions such as noise or blurred images.

SIPCOM Centre's funding through grants and contracts from government agencies and industries exceeds $ 300,000 annually. The Centre is composed of nine faculty members and more than 30 visiting scientists, post-doctoral fellows, graduate students, and technical personnel.

The key researchers are Drs. M.N. Srikanta Swamy, M. Omair Ahmad, B.B. Bhattacharyya, Ahmed K. ElHakeem, J.F. Hayes, Jeff Krolik, Tho Le-Ngoc, Eugene I. Plotkin and V. Ramachandran. They work in two laboratories equipped with modern, state-of-the-art signal processing and communication equipment. Computing facilities include workstations, microcomputers and signal processors linked to mainframes and other university computing facilities.

The Centre is closely allied with industry and government to acquire new technologies and provide technology transfer. In the past four years, many collaborative projects have been undertaken, and several original contributions have been achieved through fundamental research.

Projects have been carried out with companies such as Spar Aerospace Ltd., SR Telecom Inc., Northern Telecom Ltd. and NEC Corporation of Japan, as well as with government agencies such as the Canadian Defence Research Establishment, Transport Canada and Communications Canada.

Research at the SIPCOM Centre is discovering ways to improve communications in such diverse fields as helping individuals with hearing handicaps receive sound and satellite communication systems. ■

Digital Communications Laboratory

Telecommunication Networks Laboratory

MARELLI, N.	*Audiovisual Archives*		
	Jazz a Montreal - La collection Alex Robertson	ARNQC	(EXT) 02
	LIBRARY		
BENNETT, S.J.	*Bibliographic Studies, Literature*		
	Mary McCarthy: An Annotated Bibliography	SSHRC	(EXT) 02
	Administration and production costs for the "Irving Layton Project"	SSHRC	(INT) 02
SINGER, L.	*Canadian Art, Architecture, and Film Bibliography, Discourse Analysis, Collaborative Computer Writing*		
	Canadian Film: A Bibliography and Guide to the Literature / Le cinema canadien: bibliographie et guide de la documentation	SSHRC	(EXT) 02

Members of the Faculty of Arts and Science contin
develop their research programmes, with major so
of funding for this activity supplied predominant
the Fonds pour la formation de Chercheurs et l'Aid
recherche (FCAR), the Medical Research Council (M
the Natural Sciences and Engineering Research Co
(NSERC), and the Social Sciences and Humanities
search Council (SSHRC).

This year, our Department of Mathem
and Statistics was awarded funding from FCAR fo
creation of a new research centre, the Centre Interun
sitaire en Calcul Mathematique Algebrique (CICMA
addition to this new centre, the Faculty continue
house centres in the following Departments: Chem
(Centre for Research in Inorganic Chemistry), (Cana
Picosecond Centre for Laser Flash Photolysis); Psyc
ogy (Centre for Research in Human Development), (Ce
for Studies in Behavioural Neurobiology). Membe
the Psychology Department also participate in the
tional Centre of Excellence on Neural Regeneration
Functional Recovery, and the National Network
Promoting Independence and Productivity in an A
Society.

The titles listed here reflect the strong c
mitment of our faculty to a wide range of rese
projects. This is evident also in the lists of refe
publications by members of our faculty in two do
ments for the years 1984-85 and 1986-88. A t
document listing the refereed publications for 198
nearing completion. These are available upon req
from the Vice-Dean, Research, Faculty of Arts & Scie

FACULTY OF ARTS & SCIENCE

GAVIN, J.	*Adaptation to Lifestyle Changes, Health Promotion Programmes, Exercise and Sport Psychology*		
	Exercise Motivation	ANOPC	(EXT) 02
MARKIEWICZ, D.	*Adult Development, Friendship - Human Development, Care Givers of Dementia Patients, Peer Relations*		
	The Development and Validation of a Measure of Adult Friendship	ANOPC	(EXT) 02
TAYLOR, M.	*Risk Factor Reduction Among Coronary Artery Bypass Graft Patients*		
	Minimizing Risk Factors for Coronary Artery Disease: Development of a Conceptual Model of Patient Learning	SSHRC	(INT) 02

ALBERT, P.	*Insect Host-Plant Relationships, Feeding Behaviour, Electrophysiology, Gustation, Sensory Codes*		
	Host-Plant Selection by Insects	NSERC	(EXT) 02
	Chemosensory Bases of Host-Plant Selection by Insects	NSERC	(INT) 02
ANDERSON, P.	*Aquatic Toxicology, Environmental Behaviour of Pollutants, Thermoregulatory Behaviour*		
	Thermoregulatory Behaviour and Bioenergetics in Juvenile Salmonidae	POC NSERC	(EXT) 02 (EXT) 02
	Evaluer l'adaptabilite des OSAR, MTI ET IEM aux besoins de caracterisation et de contrôle des effluents industriels du PASL	CDE	(EXT) 01
	Développement experimental d'un procédé industriel servant a éliminer les BPC et d'autres produits organiques nuisibles	SANIM	(EXT) 01
	Modèles écotoxicologiques de pollutants chimiques dans l'environnement aquatique (Langford, C., Leduc, G. Maly, E., Ruby, S.)	FCAR	(EXT) 02

CUPPLES, C.	*Mutagenesis, Genetic Evolution, Protein Engineering*		
	Beta-Galactosidase Structure and Function	CASA	(INT) 03
	Cellular Responses to Mutagenic Events	NSERC	(EXT) 02
	Determining the Catalytic Mechanism of E. coli - galactosidase	NSERC	(INT) 02
ENESCO, H.	*Biology of Aging*		
	Lifespan: Influence of Physiological and Cellular Factors	NSERC	(EXT) 02
	Research on Cell Proliferation	ANOPC	(EXT) 02
	Photomicrography Attachment for Microscope	NSERC	(INT) 03
ESPIE, G.	*CO2 Concentrating Mechanism, CO2, HCO3, Transport, Selanastrum, Photosynthesis*		
	Control of Photosynthesis in Aquatic Micro-Organisms	FCAR FCAR	(EXT) 02 (EXT) 03
	Inorganic Carbon Treatment of Cyanobacteria	NSERC	(EXT) 02
FAIRBAIRN, D.	*Precision Measurement of Dissolved CO2 Evolutionary Ecology of Insects, Migration, Body Size, Sexual Size Demorphism, Population Ecology and Genetics*		
	Alary Polymorphisms in the Gerridae: Correlated Traits and Adaptive Significance	NSERC	(EXT) 02
	Biochemical Genetic Analysis: Western Populations of the Waterstrider, Gerris Remigis	NSERC	(INT) 02
GIRALDEAU, L.-A.	*Behavioural Ecology, Social Foraging Behaviour, Group Size Resource Defense*		
	L'usage d'informations au sein de groupes alimentaires: une approche eco-ethologique a l'apprentissage	FCAR FCAR	(EXT) 02 (EXT) 03
	The Existence and Development of Skill Pools: Field and Laboratory Investigations	NSERC	(EXT) 02
GRANT, J.	*Behaviour and Ecology of Fishes, Territoriality, Salmonid Fishes*		
	Resource Defense in Fishes	NSERC	(EXT) 02
GULICK, P.	Revco Low Temperature Freezer	FCAR	(INT) 03

HERRINGTON, M.	*Microbial Genetics, Escherichia Coli Suppression, Translational Accuracy, Thymidylate Synthase*		
	Suppression by ThyA Mutants of Escherichia Coli	NSERC	(EXT) 02
HILL, C.	*Ion Channels, Perfused Liver, Signal Transduction,Isolated Hepatocytes*		
	Cell Separation Systems for Isolating and Purifying Non-parencheymal Liver Cells	NSERC	(INT) 03
	Role of Potassium and Chloride Channels in Hepatic Signal Transduction	FCAR	(EXT) 02
	Patch-Clamp Studies of Membrane Currents and their role in Signal Transduction in Single Liver Cells	NSERC	(EXT) 02
IBRAHIM, R.	*Biochemistry, Biotechnology, Natural Products, Enzymology*		
	Enzymology and Compartmentation of Secondary Plant Metabolites (Colebrook, L.)	FCAR FCAR	(EXT) 02 (EXT) 03
	Engineering-altered Secondary Metabolism in Brassica (Strategic - Group)	NSERC	(EXT) 02
KAPOOR, N.	*Zoology Physiology Aquatic Insects, Ultra-structure Sensory Physiology Ecology, Electron Microscopy Environmental Biology*		
	Ultrastructural Studies of Cuticular and Subcuticular Structures of Insects	EPTM MGU	(EXT) 02 (EXT) 02
	Corroborative Light and Electron Microscopic Studies of Insect Sensilla	CASA	(INT) 02
KORNBLATT, J.	*Biochemistry and Biophysics Concentrating on the Effects of High Hydrostatic and Osmotic Pressures on Intra and Intermolecular Forces*		
	Cytochrome c Oxidase: Its Conformations and its Interactions with Other Macro-molecules	NSERC	(EXT) 02
	See ENGLISH, A.-M.		
LEDUC, G.	*Archaeology, Environmental Expertise, Toxicology*		
	Archeological Structures of Unknown Origin in Québec: An Enigma to Resolve	ANOPC	(EXT) 02
	See ANDERSON, P.		

MALY, E.	*Limnology, Zooplankton Distribution Patterns, Sexual Size Dimorphism*		
	Factors Affecting Incidence of Calanoid Copepod Populations	NSERC	(EXT) 02
	Factors Contributing to the Eutrophication of Brome Lake	CASA	(INT) 02
	Studies of Pollution in Brome Lake	BROME	(EXT) 02
	See ANDERSON, P.		
MCLAUGHLIN, J.D.	*Parasitology, Wildlife and Wildlife Diseases, Bird Parasites and Diseases*		
	Biology of Waterfowl Helminths	ANOPC	(EXT) 02
	Factors Affecting Local Distribution of Cyathocotyle and Sphaeridiotrema - Pathogens of Ducks	FCAR	(INT) 02
	Temperature as a Factor in the Establishment of Cyclocoelid Infections in Snails during Early Spring	NSERC	(INT) 20
NEWMAN, E.	*Tryptophane, L-Serine Production, Glycine, Microbial Fermentation*		
	C_1, Serine and Glycine Metabolism in E. Coli (Collaborative research at the Institut Jacques Monod, Université de Paris VII, Jussieu, Paris)	NSERC	(EXT) 20
	Degradation of Proteins as a Regulatory Mechanism in Yeast and E. Coli (Storms, R.)	FCAR	(EXT) 02
	Construction of a Genetically Engineered Bacterial Strain for the Commercial Production of L-Serine from Glycine (Strategic)	NSERC	(EXT) 02
	Molecular Aspects of L-Serine Deaminase and its Coding and Regulatory Genes	NSERC	(EXT) 02
ROY, R.	*Radiation Biology, Cell Biology, Immunopharmacology, Radioprotection, Tocopherol, Lymphocytes, Biological Response Modifiers*		
	Effect of TPA on Survival of V79 Cells	ANOPC	(EXT) 02
	Diminishing Radiation Damage and Enhancing Immune System	CDND	(EXT) 01
RUBY, S.	*Vitellogenesis, Rainbow Trout, Cyanide, Reproduction*		
	Mechanism of Action of Sublethal Cyanide in Rainbow Trout Vitellogenesis	NSERC	(EXT) 02
	See ANDERSON, P.		

STORMS, R.	*Yeast, Gene Expression, Cell Cycle*		
	Automated DNA Synthesizer	NSERC	(EXT) 03
	Regulation of the Periodically Expressed TMPc1 Gene	NSERC	(EXT) 02
	See NEWMAN, E.		
WIDDEN, P.	*Ecology of Forest Soil Microfungi, Effects of Grazing on Fungal Communities*		
	IEC Centrifuge	CASA	(INT) 03
	Ecology of Soil Microfungi Involved in Litter and Cellulosa Decomposition	NSERC	(EXT) 02

NISH, C.	*Quebec History, Origins to Present, Vichy France, 1939-1945, Debates of the Legislative Assembly, United Canada 1841-1867*		
	Debates of the Legislative Assembly of United Canada, 1841-1867	SSHRC SSHRC	(EXT) 02 (EXT) 03

ABLENAS, F.	*Fire-Related Corrosion, Synthesis and Reactivity of Novel Sulfur Containing Functional Groups*		
	The Preparation of Unsaturated Tin(IV) and German(IV) Thiolates	CASA	(INT) 02
	The Synthesis of Sulfonium and Sulfinyl Analogues of Prophylactic and Therapeutic Agents for Fluorophosphate Antiacetycholinesterases	CDND	(EXT) 01
ADLEY, T.	*Organic Chemistry, Environment Chemistry*		
	An Investigation of Corrosity and Toxicity of Combustion Products of Telephone Cable Insulation	BC	(EXT) 01
BELL, M.	*Electrochemistry, Corrosion and Battery Research, Solid State Electrochemistry*		
	Electrochemistry of Solid - Solid Interactions	NSERC	(EXT) 02
BEED, P.	*Transition Metal Complexes, X-Ray Crystallography*		
	Synthetic, Crystallographic and Catalysis Studies in Organommetallic Chemistry	NSERC	(INT) 02

CAPOBIANCO, J.	*Chemical Physics, Laser Spectroscopy of Rare Earth and Transition Metal Ions, Solid State Tunable Lasers*		
	Argon Ion Laser	NSERC	(EXT) 03
	Single Ion Spectroscopy of Nd 3+ Doped Silica Fibre	CASA	(INT) 03
	Silicate Glass Ceramics: New Materials for Tunable Solid State Lasers	NSERC	(INT) 02
COLEBROOK, L.	*Nuclear Magnetic Resonance Spectroscopy, Molecular Modelling, Organic Chemistry*		
	Studies in Organic Structure and Stereo-chemistry	NSERC	(EXT) 02
	See IBRAHIM, R. (Biology)		
DAUNT, S.	*Astrophysical Molecules, Laser Spectroscopy, Laboratory Astrophysics*		
	Laser and FT-IR Spectroscopy of Astro-physical Molecules	NSERC	(EXT) 02
	Molecular Beam Assembly for IR Laser/ Supersonic Jet Studies	CASA	(INT) 02
DENES, G.	*Solid State, Inorganic Chemistry, Crystallography, X-Ray Diffraction, Mossbauer Spectroscopy*		
	Upgrading an X-ray Powder Diffractometer	NSERC	(EXT) 03
	Fluoride Ion Conductors and Oxide Superconductors	NSERC	(EXT) 02
	A Variable Temperature Tin-119 Mössbauer Study of Phtalocyanines, Fluoride Ion Conductors & High Tc Superconductors	NSERC	(INT) 02
	See LE VAN MAO, R.		
ENGLISH, A.-M.	*Heme Proteins, Electron Transfer, Kinetics Ligand Binding, Fluorescence, IR, Resonance Reman, Protein Modification, Flash Photolysis*		
	Studies on Heme Proteins (Kornblatt, J.)	FCAR	(EXT) 02
	Studies on Horse-radish Peroxidase	CASA	(INT) 02
	Ligand Binding and Redox Properties of Heme Proteins	NSERC	(EXT) 02
	See HILL, B.		

HILL, B.	*Electron Transfer, O_2 Reduction, Bioenergetics, O_2 Activation*		
	Structure and Function Studies of the Reactions Catalysed by Cytochrome Oxidase	NSERC	(EXT) 02
	Fluorescence Studies on Heme Proteins (English, A.-M.)	FCAR	(INT) 03
	Photometer to Measure Transient Absorbance Changes	NSERC	(INT) 03
KHAN, R.	*Preprosomatostatin, Secretion, Endoproteases, Yeast, Intracellular Location*		
	Use of Yeast Mutants in the Study of Mammalian Preprosomatostatin Processing	NSERC	(EXT) 02
	Expression, Processing and Production of Human Neuropeptide (Somatostatin) Precursors in Yeast	CASA	(INT) 02
KORNBLATT, M.-J.	*Mammalian Enolases, Enzyme Mechanisms, Sub-Unit Interactions in Enolase*		
	Enolases: Subunit Interactions and Mechanisms	NSERC	(EXT) 02
	Structure and Mechanism of Enolase and Cytosine Deaminase	ANOPC	(EXT) 02
LANGFORD, C.	*Photochemistry, Inorganic Reaction, Mechanisms,Environmental Modelling Chemistry, Analytical Chemistry*		
	Hydrophobic Ceramics for Waste Disposal (Strategic - Group) (Le Van Mao, R.)	NSERC	(EXT) 02
	L'etude des photocatalyseurs pour le traitement des dechets industriels (Programme de cooperation entre le Quebec et les autres provinces canadiennes)	MRIAI	(EXT) 02
	Inorganic Photochemistry and Environmental Speciation (Team) (Zienius, R.)	NSERC	(EXT) 02
	Materiaux de deuxieme generation pour les technologies de l'energie et de l'electronique (Action Structurantes)	MESS	(EXT) 02
	Quantum Yield Determination in a Photo-catalytic Reactor	ANOCC	(EXT) 01
	See ANDERSON, P. (Biology)		
	See SHARMA, D.		

LAWRENCE, M.	*Photovoltaic Energy Conversion, Photoelectrochemistry, Organic and Inorganic Semiconductors*		
	Photovoltaic Devices Using II-VI Semi-Conductors Grown by the Gas-Solid Process	NSERC	(EXT) 02
LE VAN MAO, R.	*Heterogeneous Catalysis, Petroleum and Natural Gas Chemistry, Industrial Processes and Materials*		
	Production de 190 kg de chryozeolite	GAMO	(EXT) 01
	Combined TGA/DTA System (Denes, G.)	NSERC	(EXT) 03
	Développement des catalyseurs et adsorbants sélectifs à partir de l'amiante chrysotile Applications industrielles des chrysozéolites	IDLA	(EXT) 01
	High Performance Catalysts for the Aromatization of Light Alkanes (Strategic)	NSERC	(EXT) 02
	Superacidic Catalysts for Low Temperature Conversion of Aqueous Ethanol to Ethylene	NSERC	(INT) 20
	Catalyseurs zéolitiques: caractérisation physico-chimique et optimisation de formulation	NSERC	(EXT) 02
	See LANGFORD, C.		
MIKKELSON, S.	*Analytical Chemistry, Electrochemistry, Chemical Recognition, Enzyme Electrodes, Biosensors, Mediators, DNA*		
	Electrochemical and Synthetic Enzyme-Based Biosensors	NSERC	(INT) 02
SERPONE, N.	*Semiconductors, Metallocenes, Photophysics, Environmental Contamination, Laser Spectroscopy*		
	Fundamental Studies in Heterogeneous Photocatalysis/Inorganic Photochemistry	NSERC	(EXT) 02
	Semiconductor Photophysics and Heterogeneous Photocatalysis Applied to Detoxification of Waste Waters	CASA	(INT) 03
	Heterogeneous Photocatalysis - Application to Photomineralization of Organic Pollutants	NSERC	(INT) 03
	See SHARMA, D.		
SHARMA, D.	*Picosecond and Femtosecond Spectroscopy*		
	Intensity Dependence of Photo-physical Processes (Langford, C., Serpone, N.)	NSERC	(INT) 03

TEE, O.	*Mechanisms of Organic Reactions, Catalysis and Effects of Complexation, Bromination of Aromatic Compounds*		
	Studies in Physical Organic Chemistry	NSERC	(EXT) 02
ZIENIUS, R.	*See LANGFORD, C.*		

COMMUNICATIONS STUDIES

ALLOR, M.	*Audience Research, Culture, Cultural Industries Research, Communication Epistemology*		
	A Typology of Concepts of Audience in Canadian Cultural Industries	CASA	(INT) 02
BERLAND, J.	*Broadcasting Policy and History, Canadian Radio and Music Industries, Popular Music, Popular Culture, Cultural Studies*		
	Public Policy and the Cultural Industries: Current Transformations in Music Recording and Broadcasting	SSHRC	(INT) 02
CHARLAND, M.	*Rhetoric, Philosophy of Communication, Technology and Culture*		
	The Rhetoric of Technology	SSHRC	(EXT) 02
GILSDORF, W.	*Political Communications, News Practices, Media Studies*		
	Quebec and Denmark: A Comparative Study of the Influence of the Cross Border Flow of Foreign Culture and Media	FCAR	(INT) 02
MURPHY, D.	*Treatment of Historical Subjects for Television, Media Ethics, Response of Audiences, Media Forecast, Propaganda, Television*		
	Nihan!s - Proposal for a five-part television series based on the lives of eight individuals in 17th Century North America	CASA	(INT) 02
SHINAR, D.	*Communications and Development, Communications and Aging, Media Literacy, Media in Education*		
	The Role of Television in the Peace Process	SSHRC	(INT) 02

ECONOMICS

ANASTASOPOULOS, A.	*Macroeconomics, Computable General Equilibrium Model, Financial Economics, Risk and Uncertainty, Investment*		
	Computable General Equilibrium Models	ANOPC	(EXT) 02
	Greece and the Relevance of the Canadian Experience	CASA	(INT) 02

BELZIL, C.	*Labor Economics, Labor Market Dynamics, Unemployment Studies*		
	Unemployment Insurance and Subsequent Labor Market Adjustments in the Canadian Labor Market: A Duration Analysis	CASA	(INT) 02
CAMPBELL, B.	*Econometrics, Nonparametric Statistics, Macroeconomics*		
	The Expectations Theory of the Term Structure of Interest Rates: A Nonparametric Evaluation	CASA	(INT) 02
FISHER, G.	*Corporate Taxation and Debt-Asset Ratios, Coordinate Free Methods in Econometrics*		
	Econometrics in Theory and Practice	CONU	(INT) 02
IRVINE, I.	*Economics, Public Economics, Econometrics, Microeconomics, Income Distribution, Economics of Housing, Taxation and Welfare*		
	Economies of Scale in Canadian Industry	ANOPC	(EXT) 02
	See SIMS, W.		
ISLAM, S.	*Municipal Finance, Regional and Urban Economics, Intergovernmental Transfers*		
	Fiscal Illusion, Provincial Grants, and Local Spending	SSHRC	(INT) 02
RAFIQUZZAMAN, M.	*Efficiency of the Patent System, Government Intervention*		
	Legal Protection of Intellectual Property in Respect of Integrated Circuits: What Should Canada Do?	SSHRC	(INT) 02
SAMPSON, M.	The Growth of Long Run Uncertainty	CASA	(INT) 03
SIGGEL, E.	*Development Economics Focusing on Trade Policy, Industrialization, Technology Transfer and Labour Markets (Africa)*		
	Labour Market Issues in Less Developed Countries: The Case of Unemployment, Wage Differentials and Skill Formation in Kenya	SSHRC	(EXT) 02
SIMS, W.	*Alcohol, Regulation, Pollution, Transportation*		
	The Demand for Alcoholic Beverages in Canada (Irvine, I.)	FCAR	(INT) 02

ABRAMI, P.	*Evaluation of Instruction, Quantitative Synthesis, Cooperative Learning, Social Psychology, Educational Psychology*		
	Cooperative Learning in Classrooms	SSHRC	(EXT) 02
	An Observation System for Student Team Learning	SSHRC	(INT) 03
	Effective Learning by Students in Teams (Chambers, B., Farrell, M.)	FCAR	(EXT) 02
BAGGALEY, J.	*See COLDEVIN, G.*		
BERNARD, R.	*Print-Based Instruction, Distance Education, Instructional Materials, Learner Characteristics, Research Methodology*		
	A Qualitative Study of Two Alternative Approaches to Eliciting Experts' Knowledge: Personal Construct Technology and Concept Mapping (Shaw, S.)	SSHRC	(INT) 02
	Designing Instructional Strategies that Differentially Affect Higher and Lower Order Learning Outcomes: A Pilot Project	FCAR CASA	(INT) 02 (INT) 02
BOYD, G.	*Educational Cybersystemics, Computer Communications, Mediated Learning, Expert Tutoring Systems*		
	Perfectionnement par modelisation cybernetique en utilisant téléconferences assistées par ordinateur PPMC/TAB	FCAR FCAR	(EXT) 02 (EXT) 03
	Computer Supported Co-operative (Jaworski, W., Picot, J., Swallow, J.)	SSHRC	(INT) 03
	See JOOS, G. (Elec. & Comp. Eng.)		
CHAMBERS, B.	*Early Childhood Education, Cooperative Learning, Social-Cognitive Development*		
	Cooperative Learning in the Early Curriculum	SSHRC	(INT) 02
	See ABRAMI, P.		
CLEGHORN, A.	*Educating Third Language Speakers: Quebec*		
	Educating Third Language Speakers in Quebec: Academic and Social Considerations	SSHRC	(INT) 02

COLDEVIN, G.	*Development Communication, Distance Education, Television Interactive Media*		
	Matching Learner Characteristics with Levels of External Control in Designing Interactive Video: Maximum, Partial, and Minimum User Control Options Compared (Baggaley, J., Tovar, M.)	FCAR	(EXT) 02
DUBREUIL, B.	*Design, Multimedia, Hypermedia, Software Tools, Training in Education*		
	Content Analysis and Design of Training Collect Arrears on Category 1 & 2 Accounts	ON/Q Corp	(EXT) 01
FARRELL, M.	*See ABRAMI, P.*		
HOWE, N.	*Sibling Relations, Play, Early Childhood Education*		
	The Influence of Student Designed Dramatic Play Centres on Childrens' Pretend Play	CASA	(INT) 02
	The Role of Reciprocal and Complementary Interactions in the Sibling Relationship	SSHRC	(EXT) 02
JACOBS, E.	*Play, Social Behaviour, Friendship, Early Childhood Education, Day Care, Social Competence*		
	School Age Child Care	ANOPC	(EXT) 02
KNITTER, W.	*Philosophy of Education, Curriculum Theory, Classroom Questioning and Discussion, Character/Moral Education*		
	Deliberative Curriculum Theory: Implications for Education	ANOPC	(EXT) 02
MITCHELL, D.	*Computer Aided Learning, Knowledge Engineering, Operational Research*		
	Representation of Knowledge and Instructional Strategies for Intelligent Computer Aided Learning (Zeman, V. - Philosophy)	FCAR	(EXT) 02
PICOT, J.	*See BOYD, G.*		
SCHMID, R.	*Algorithmic Instruction/Expert Systems in Education and Training, Learning Strategies, Measurement and Evaluation Methodology*		
	The Impact of Learning Strategies on the Effectiveness and Acceptance of the Instructional Algorithm Approach	CASA	(INT) 02
SHAW, S.	*See BERNARD, R.*		

SMITH, R.	*Professional Development, Action Science Approach, Reflective Practice (Argyris) (Schon)*		
	Reflecting on Practice: Heuristics for Action	SSHRC	(INT) 02
SWALLOW, J.	Computer Supported Cooperative Learning	FCAR	(INT) 02
	See BOYD, G.		
TOVAR, M.	*Educational Technology, Instructional Design, Interactive Video*		
	The Effects of Variations in Instructional Control and Orienting Activities on Learning from Interactive Video	SSHRC	(EXT) 02
	See COLDEVIN, G.		
WEBER, S.	*Early Childhood Education, Second Language Acquisition, French Immersion Education, Qualitative Research Methodology*		
	Student-Teacher Interaction in "Classe d'Accueil"	CASA	(INT) 02

ENGLISH

BRIAN, M.	*Etymology and Joyce, Rhetoric and Renaissance Prose, Alchemy and MacBeth, Underlying Implication of Writing*		
	1) James Joyce's Use of Etymology 2) Joyce's Hidden Topography 3) Renaissance Studies	CASA	(INT) 02
FREIWALD, B.	*British and Canadian Literature, Victorian Studies, Gender Studies, Race, Class and Gender in Literature, Feminist Theory*		
	Gender, Creativity and Literary Productivity	SSHRC	(EXT) 02
KETTERER, D.	*19th Century American Literature (Poe, Melville, Twain), Science Fiction (Shelley, James), Canadian Science Fiction and Fantasy*		
	Research for, and writing of, a book on Canadian Science Fiction and Fantasy	SSHRC	(EXT) 02
MARTIN, R.	*American Literature, Homosexuality, Male Sexuality (19th Century)*		
	Hawthorne and Construction of Heterosexuality	SSHRC	(INT) 02
PHILMUS, R.	*English Literature: 1660, Early 18th Century Fiction, Science Fiction, Jonathan Swift*		
	Science Fiction Studies	ANOPC	(EXT) 02

SOMMER, R.	*Myth and Literature, Aboriginal Story-Telling, Poetry and Creative Writing*		
	Presentation of Poetry in a Multi-Media Context for Video Tape Cassette	ANOPC	(EXT) 02
ETUDES FRANÇAISES			
SIMON, S.	*Translation Theory and History, Quebec Literature and Culture, Feminist Theory*		
	L'identitaire et l'hétérogène dans la prose romanesque québécoise	SSHRC	(EXT) 02
TAGGART, G.	*Didactics of Language, Phonology, Rumansch*		
	Dictionnaire du vocabulaire usuel romanche/(Ladin Vallader) et français fondamental/romanche (Ladin Vallader)	SSHRC	(INT) 02
VERTHUY, M.	*20th Century French Literature, Women's Studies, North African Women's Literature*		
	L'espace-temps dans la litterature	SSHRC	(INT) 02
	Computer and Literary Criticism	ANOPC	(EXT) 02
	Hélène Parmelin face à la critique litteraire I, la presse communiste	SSHRC	(INT) 02
EXERCISE SCIENCE			
GAUVIN, L.	*Exercise and Sport Psychology, Mood - Affect - Emotion and Exercise, Motivation for Exercise and Sport*		
	The Relation of Affect to Acute and Chronic Exercise	CASA	(INT) 02
JANKOWSKI, L.	*Rehabilitation, Health and the Role of Exercise, Sports for the Disabled, Exercise Physiology*		
	Efficiency-Capacity and Fatigability of Individuals with Traumatic Brain Injuries	CASA	(INT) 02
KILGOUR, R.	*Neuromuscular Adaptation in Diabetes, Cardiovascular Responses During Exercise, Facial Cooling, Recovery*		
	The Effects of Facial Cooling during Recovery from Exercise Hyperthermia	NSERC	(INT) 02
	Functional Adaptations of Motorneurons in Experimental Diabetes	CDIAB	(EXT) 02

PARIS, D.	*The Effects of Preventative Ankle-Taping and Commercial Ankle Braces on Athletic Performance and Ankle Range of Motion*		
	Isometric Strength of Rearfoot Inversion and Eversion in Nonsupported, Taped and Braced Ankles Using a Hand-held Dynometer: A Pilot Study (Sullivan, S.J.)	FCAR	(INT) 02
SULLIVAN, S.J.	*See PARIS, D.*		

GEOGRAPHY

ANDERSON, J.	*Cartographic Communication, Cartographic Education and Young Children, Mapping, Design and Production*		
	Undergraduate Cartographic Education in Canada - 1987-1991	SSHRC	(INT) 02
	The Design of Symbols for a Young Child's Map (Traditional and Virtual) of their School and its Environs	SSHRC	(INT) 02
FROST, D.	*Computer Cartography, Heart Attacks Caused by Temperature and Snow, Tropical Precipitation*		
	Diurnal Rainfall in Columbia	CASA	(INT) 02
GRADUS, Y.	Communities in Sparsely Populated Regions	ANONC	(EXT) 02
THORNTON, P.	*Infant Mortality and Fertility in 19th Century Montreal, Fertility in Newfoundland, Occupational Pluralism in Atlantic Canada*		
	Geographic and Social Mobility in Montreal 1850-1900	SSHRC	(INT) 02

GEOLOGY

KUMARAPELI, S.	*Extensional Tectonics, Intraplate Seismotectonics, Rift-Related Magmatism, Ore Deposits*		
	Project on Tectonics and Mineral Deposits with Nanjing University and project on Bracking of the Iapetan Rift-drift Transition in the Appalachians	NSERC	(INT) 02
MUKHERJI, K.	*Carbonate Petrology, Recent Carbonate and Clastic Sedimentary Environments*		
	C14 Dates of Pleistocene-Holocene Coastal Sediments in East Coast of India	CASA	(INT) 02
SASSANO, G.	*Economic Geology, Mineral Deposits, Environmental Geology*		
	SEM Studies of Ore Samples Containing Framboidal Pyrite from the Acton Vale-Upton Sector	CASA	(INT) 02

ST. SEYMOUR, K.	*Volcanic Petrogenesis, Nisyros, Volcananology Subduction, Aegean Island Arc*		
	Volcanic Petrogenesis of Nisyros Volcano Aegean Island Arc	NSERC	EXT) 02
	HISTORY		
CARR, G.	*Canadian Cultural History, Canadian-American Cultural Relations*		
	The Social Construction of the 19th Century English-Canadian Literary Criticism	CASA	(INT) 02
CHALK, F.	*Genocide, Liberia, Nigeria, Kenya, Holocaust, U.S.-Foreign Policy, Africa*		
	Azrieli Holocaust Library Collection	ANOPC	(EXT) 02
	In Support of the Montreal Institute for Genocide Studies	ANOPC	(EXT) 02
FICK, C.	*Caribbean Slavery, Slave Demography, Caribbean Plantation Societies*		
	Long-term Socio-Historical Study of the Island of St-Barthelemy	SSHRC	(EXT) 02
	Social History of Slavery on a Isolate: St. Barthelemy, 1648-1878	SSHRC	(EXT) 02
GINTER, D.	*Land Ownership and Farm Tenancy, Land Holding and Electoral Behaviour, Origins of Political Parties*		
	The Wyvill Papers	ANOPC	(EXT) 02
KEATING, P.	*History and Sociology of Biology and Medicine in the 19th and 20th Centuries*		
	Le role des instruments dans la recherche scientifique: les trieuses des cellules (1960-1985)	FCAR	(EXT) 02
	The Control and Elimination of Diphtheria in Canada: 1890-1940	HIMH	(EXT) 02
	Natural Antibodies and the Development of Immunology 1890-1970	SSHRC	(EXT) 02
TITTLER, R.	*English History, 15th to 17th Centuries, History and the Built Environment, Economic, Social, Political and Urban Issues*		
	Revised Edition of Book "The Reign of Mary I"	SSHRC	(INT) 02
VIPOND, M.	*English-Canadian Nationalism in the 1920's, Canadian Broadcasting in the 1920's and 1930's, Mass Media*		
	Canadian Broadcasting, 1932-36: The CRBC Years	CASA	(INT) 02

CRYSLER, L.	Journalism Training and Development	ANOPC	(EXT) 02
PERIGOE, R.	*Broadcast Journalism, Broadcast Policy, Public Affairs Radio, T.V., Broadcasting Ethics, Technology, Current Affairs, Minorities in Media*		
	Study on Captioning of Television Programmes for the Hearing Impaired	ANOPC	(EXT) 02

LEISURE STUDIES

PETRYSHEN, P.	*Therapeutic Recreation, Leisure and Mental Health, Disabilities*		
	A Survey of Problems Encountered by Children with Learning Disabilities Outside of School: The Parents' Perspective	CASA	(INT) 02
	Integrated Versus Segregated Recreation Programming: One Community's Dilemma	SRC FC	(EXT) 02

LIBRARY STUDIES

GIGUERE, M.	*Alternative Career Options for Librarians*		
	Adapting Professional Skills to Adjust to a Changing Workforce - A Study of Librarians Working in Non-library Settings	SSHRC	(INT) 02

MATHEMATICS

ALI, S.	*Square Integrable Representations, Kernel Spacing, Quantization, Guage Transformations*		
	Square Integrable Group Representations and Quantum Theory	NSERC	(EXT) 02
	Frames for Representations of Locally Compact Groups: Applications to Signal Analysis	NSERC	(INT) 02
ANAND, K.	*History of Mathematics, Non-Linear Vibration, Applied Mathematics*		
	a) Canadian Women Mathematicians from 1960-1975 b) Canadian Women Mathematicians from 1976-1989	CASA	(INT) 02
BOYARSKY, A.	*Dynamical System Theory, Mathematical Biology, Chaos*		
	Pattern Formations and Cellular Automata	NSERC	(INT) 03
	NEXT Computer	NSERC	(EXT) 03
	Problems in Applied Ergodic Theory	NSERC	(EXT) 02
	See BYERS, W.		

BRODY, J.	*See HILLEL, J.*		
BYERS, W.	*Dynamical Systems, Mathematical Theory of Chaos*		
	Iteration of Maps and Applications (Boyarsky, A., Malik, M., Proppe, H., Stern, R.)	FCAR	(EXT) 02
	Dynamical Properties of One-dimensional Maps	NSERC	(EXT) 02
CHAUBEY, Y.	*Sample Surveys, Econometric Models, Variance Components Models*		
	A Study of some Statistical Procedures in Sampling and Linear Models	NSERC	(EXT) 02
	A Study of Sampling Distributions with a Special Emphasis on Kurtosis Statistic	CASA	(INT) 02
CUMMINS, C.	*Mathematical Physics, Computer Algebra, Group Theory*		
	Investigation of Properties of Group Representations	NSERC	(EXT) 02
	See McKAY, J. (Computer Science)		
DESROCHERS, M.	*Algebraic Number Theory, Galois Module Structure Rings of Integers, Self-Duality, Elliptic Functions*		
	Self-Duality of Rings of Integers as Galois Modules	NSERC	(EXT) 02
DUMMIT, D.	*Iwasawa Theory, Modular Forms, Format Curves, Cyclotomic Fields*		
	Algebraic Number Theory	NSERC	(EXT) 02
DWIVEDI, T.	*Inference Linear Regression, Models and Simultaneous Equation Model*		
	Statistical Inference in Linear Model	NSERC	(EXT) 02
ERLWANGER, S.	*See HILLEL, J.*		
GARRIDO, J.	*Risk Theory, Actuarial Mathematics, Applied Probability, Statistics, Inflation, Discounting, Dividends*		
	Diffusion Models for Risk Processes	NSERC	(EXT) 02
	Simulation Study of Perturbed Diffusion Risk Reserve Processes	NSERC	(INT) 02
HALL, R.	*Mathematical Physics, Applied Analysis, Applied Probability*		
	Geometrical and Graphical Methods in Theoretical Physics	NSERC	(EXT) 02

HARNAD, J.	*Mathematical Physics, Nonlinear Integrable Systems, Spectral Transform Techniques, Theory of Solitons, Guage-Field Theory*		
	Integrable Systems, Yang-Mills Theory and Supersymmetry	NSERC	(EXT) 02
	Solitons and Quasi-Periodic Modes in Nonlinear Optical Fibres	FCAR	(INT) 03
HILLEL, J.	*Computer and Mathematics Learning, Problem Solving and Cognitive Processes*		
	Adult Learners and Mathematics: Cognitive Obstacles and Instructional Interventions (Brody, J., Erlwanger, S., Wheeler, D.)	FCAR FCAR	(EXT) 02 (EXT) 03
	Using Computer Algebra Systems with Adult Learners	SSHRC	(EXT) 02
JOYAL, P.	*Vector Fields, Bifurcation, Limit Cycles, Singular Cycle, Lyapunov Constants*		
	Limit Cycles in Planar Vector Fields	NSERC	(EXT) 02
KHALIL, Z.	*System Reliability, Queuing Theory, Applied Probability Models*		
	Screening of Non-Stationary Poisson Process and Optimal Warranties	NSERC	(INT) 02
KISILEVSKY, H.	*Algebraic Number Theory, Class Field Theory*		
	Algebraic Number Theory	NSERC	(EXT) 02
MALIK, M.	*See BYERS, W.*		
PROPPE, H.	*See BYERS, W.*		
RAPHAEL, R.	*Algebra, Ring Theory, Commutative Algebra Algebraicity, Rings, Injectivity*		
	Topics in Rings and Abelian Groups	NSERC	(EXT) 02
SELDIN, J.	*Mathematical Logic, Theoretical Computer Science, Proof Theory, Functional Programming Language*		
	The Proof Theory of Dependent Function Types	NSERC	(EXT) 02
STERN, R.	*Matrix Theory, Dynamic Systems, Application of the Theory of Non-Negative Matrices to Linear Differential Systems*		
	Nonnegative Matrices: Theory and Applications	NSERC	(EXT) 02
	See BYERS, W.		

	RESEARCH INTEREST(S) — PROJECT TITLE	SOURCE	TYPE
SZABO, M.	*Mathematical Logic, Artificial Intelligence, Category Theory*		
	Applications of Proof Theory to the Analysis of Programmes	NSERC	(EXT) 02
WHEELER, D.	*See HILLEL, J.*		

MODERN LANGUAGES & LINGUISTICS

ANTOLIN, F.	*Spanish and Spanish-American Literature – XVII, XIX, XX Centuries, Studies of RULFO, Vargas-Llosa, Garcia-Marquez, Sabato*		
	Literary Research in Spanish	ANOPC	(EXT) 02
BARTON, C.	*Comparative Indo-European Linguistics*		
	Verbal Stem Foundation in Greek and Armenian	CASA	(INT) 02

PHILOSOPHY

ALLEN, P.	*Philosophy of Person, Philosophy of Women, Philosophy of Existentialism and Religion*		
	Women's Conceptual History: 1800-1994	SSHRC	(EXT) 02
CLARKE, M.	*Naturalized Epistemology, Cognitive Psychology, Evolutionary Theory*		
	Evolutionary Aspects of Knowing	FCAR	(INT) 02
GRAY, C.	*Legal Philosophy, Medieval Philosophy*		
	Bonaventure of Bagnoregio: Preparation of Significant 13th Century Philosophical Texts	SSHRC	(INT) 02
MASON-MULLETT, S.	*Ethics, Political Philosophy, Feminist Theory, Feminist Ethics, Philosophy of Wittgenstein, Philosophy of Leisure*		
	A Categorical Framework for Feminist Analysis	CASA	(INT) 02
ZEMAN, V.	*See MITCHELL, D. (Education)*		

PHYSICS

EDDY, N.	*Gamma Ray Spectroscopy, Microcomputer Interfacing, Analog to Digital Conversion*		
	Design, Construction, Testing of (a) Portable Dose Equivalent Meter (Radiation Survey Meter); and (b) Educational Microcomputer for Science/ Engineering Applications	CDND	(EXT) 02

FRANK, B.	*Analytical Theory of Classical Models of Phase Transitions beyond Mean-Field Theories, Time-Dependent Neural Networks*		
	Neural Networks Percolation	CASA	(INT) 02
	Ising Model: Critical Exponents	NSERC	(EXT) 02
FRANK, M.	*High Energy Physics Theory: Electro-weak Interactions, CP Violation, Left-Right Models, Supersymmetry and Supergravity*		
	Cp Violation in Particle Physics	NSERC	(INT) 02
	Phenomenological Supergravity Models Applied to (g-2) MO, Neutral Currents and CP Violation	NSERC	(EXT) 02
KALMAN, C.	*High Energy Physics, Super Symmetric Guage Field Theory, CP Violation*		
	Supersymmetric Model for Electroweak Interactions without Baryon or Lepton Number Violation	NSERC	(EXT) 02
KIPLING, A.	*Surface and Interfacial Physics, Acoustic Wave Liquid-Phase Sensor, Piezoelectric Quartz Crystal*		
	Mediation of Bulk Acoustic Wave Transmission by Interfacial Properties of Piezoelectric Sensors	UT	(EXT) 02
MISRA, S.	*Electron Paramagnetic Resonance (EPR), Spin-Lattice Relaxation, Percolation, Monte Carlo, EPR Linewidth, Spin Hamiltonian Parameters*		
	EPR and Endor Investigations of Paramagnetic Ions Doping Single Crystals	NSERC	(EXT) 02
	Studies of Semi-Magnetic Semiconductors using Electron Paramagnetic Resonance and Other Techniques (International Collaborative Research Grant)	NSERC	(EXT) 20
	EPR and Endor Investigation of Transition	NSERC	(INT) 02
	Metal Ions in Single Crystals and Amorphous Materials	NSERC	(INT) 03
MORRIS, S.	*Computer-Assisted Learning, Computer-Assisted Instruction*		
	Investigate what is Available and to Develop Computer-Assisted Instructions in Physics	ANOPC	(EXT) 02

FACULTY OF ARTS & SCIENCE CONT'D	RESEARCH INTEREST	AGENCY	TYPE
ANGELL, H.	*Quebec Party Financing, Canadian Politics, Quebec Politics*		
	Political Finance in Quebec	SSHRC	(INT) 02
BERNIER, L.	*See LACHAPELLE, G.*		
CHANTAL, M.	*Feminism, Women and Politics, De-institutionalization and Social Services*		
	Cinquante ans de participation politique pour les femmes quebecoises : vers l'emergence d'une elite politique feminin	FCAR	(INT) 02
GOLLNER, A.	Redesigning the Corporate and Social Performance Model	SSHRC	(INT) 02
KROKER, A.	*Postmodern Political and Social Theory, Technology and Culture, French Social and Political Thought*		
	Virtual World, Art and Postmodern Theory	SSHRC	(INT) 02
LACHAPELLE, G.	*Electoral Behaviour, Political Parties, Political Organizations, Public Opinion*		
	Pourquoi les Québecois adherent-ils à des partis politiques? (Bernier, L.)	SSHRC	(INT) 02
MENDELL, M.	*Political Economy, Comparative Public Policy, History of Economic Thought, Karl Polanyi*		
	Karl Polanyi Institute - Documentation Centre	CASA	(INT) 02
	Les déterminants culturels des changements sociaux	MRIAI	(EXT) 02
	The Social Philosophy of Karl Polanyi: The Relevance to Contemporary Issues of Political Economy	SSHRC	(EXT) 02
MOORE, J.	*Early Modern Political Thought, Enlightenment in Scotland and Europe, John Locke and David Hume*		
	Natural Law and Scepticism in Early Modern Political Thought	NOPC	(EXT) 02
SALEE, D.	*Political Economy of the State, Quebec and Canadian Politics and History, Politics and Administration*		
	Origines et fondements societaux de l'etat canadien	SSHRC	(EXT) 02

FACULTY OF ARTS & SCIENCE CONT'D			
AMIR, S.	*Neural Mechanisms of Adaptive Behaviour, Temperature and Energy Balance Regulation, Neurobiology of Circadian Rhythms*		
	Studies on the Central Effect of Prostaglandin E on Brown Adipose Tissue hermogenesis in the Rat	NSERC	(INT) 03
	Regulation of Brown Fat Thermogenesis by Brain Neuropeptides and its Implication for Cold Adaptation in the Developing, Mature, and Aged Rat	NSERC	(EXT) 02
	See SHIZGAL, P.		
AMIT, Z.	*Psychopharmacology, Drug Dependence, Biology of Alcoholism*		
	A Biobehavioural Investigation of Ethanol Reinforcement and Aversion	NSERC	(EXT) 02
	Neuro-enzymatic Mechanisms Mediating Voluntary Ethanol Consumption (Aragon, C.)	MRC	(EXT) 02
	An Investigation of the Neurochemical, Genetic and Environmental Factors Mediating the Self-Administration of Drugs of Abuse (Aragon, C., Smith, B.)	FCAR	(EXT) 02
ARAGON, C.	*See AMIT, Z.*		
ARBUCKLE-MAAG, T.	*Aging and Cognitive Abilities*		
	Correlates and Consequences of Lifetime and Current Alcohol Consumption in Older Men (Chaikelson, J., Gold, D.)	CDHW	(EXT) 02
BABARIK, P.	*Society, Community Development, Mental Health, Social Change, Humanistic, Transcultural*		
	Uncovering the Canadian Roots of Psychology	ANOPC	(EXT) 02
BARIBEAU, J.	*Neuropsychological and Neurophysiological, Aspects of Normal and Abnormal Information Processing, Auditory Attention*		
	Fractal (Chaotic) Analysis of EEG, EOG, GSR HR during Cognitive Overload	NSERC	(INT) 02
	Collaborative Work in Cross-Validation of Neuropsychological and Neurophysiological Correlates of Attention	ANOPC	(EXT) 02

BERGER, C.	*Psychosomatic Related Disorders in Gynaecology and Obstetrics, Premenstrual Tension Syndrome, Late Luteal Phase Dysphoric Disorder*		
	Fluoxetine Treatment of Late Luteal Phase Dysphoric Disorder	ELIL	(EXT) 02
BRENDER, W.	*Infertility and Sexual and Marital Adjustment, Sexual Behaviour, Sexual Abuse/Assault*		
	Research in Human Sexual Behaviour	ANOPC	(EXT) 02
	Psychological Evaluation of Infertile Couples Participating in G.I.F.T. (Gamete Intra-fallopian Transfer)	CQRS	(EXT) 02
BRETON, G.	*History of Psychology*		
	Research in History of Psychology	ANOPC	(EXT) 02
BROSS, M.	*Sensory Processes, Perception, History and Systems of Psychology*		
	Temporal Factors in Perception	ANOPC	(EXT) 02
	See SYNNOTT, A. (Sociology & Anthropology)		
BUKOWSKI, W.	*Children's Social Relations, Peer Relations, Self-Concept, Adjustment, Personality Development, Loneliness, Popularity*		
	Peer Relations and Adjustment: A Longitudinal Study of Outcomes and Processes in School-Age Children	WTGF	(EXT) 02
	Self-Schema During Early Adolescence: Consistence and Mediating Effects	SSHRC	(INT) 02
CHAIKELSON, J.	*See ARBUCKLE-MAAG, T.*		
CONWAY, M.	*Social Psychology, Affect and Cognition, Social Cognition*		
	Negative Effect and Reduced Cognitive Effort: Impact on Social Cognition and on Information Accessibility	SSHRC	(EXT) 02
DOYLE, A.-B.	*Developmental Psychology, Peer Relations, Ethnic Attitudes*		
	Quality of Children's Friendships as a Function of Maternal Friendships, Acceptance and Marital Harmony (Strategic)	SSHRC	(EXT) 02
	Communication in Social Pretend Play: Developmental Patterns from 5 to 9 Years	SSHRC	(EXT) 02
	Research on Peer Relations and Social Pretend Play	ANOPC	(EXT) 02
	See SERBIN, L.		

GOLD, D.	*Psychology of Aging, Sex Differences, Predictors of Intellectual Change*		
	Psychosocial Costs of Caregiving for Dementia Patients: A Longitudinal Study	CQRS	(EXT) 02
	Verbosity in Elderly People: An Examination of its Psychological Significance (Strategic)	SSHRC	(EXT) 02
	See ARBUCKLE-MAAG, T.		
GRATTON, A.	*Dopamine, Drugs of Abuse, Stress, Neuroleptics, Electro-chemistry, Electro-physiology*		
	Mesures comportementale et électrochimique de la liberation de la dopamine centrale induite par la nicotine	FCAR FCAR	(EXT) 02 (EXT) 03
	See WISE, R.		
GRAY, T.	*Understanding of Evidence, Critical Abilities, Belief in Unsubstantiated Phenomena*		
	Education Experience, Critical Abilities, and Belief in Unsubstantiated Phenomena	SSHRC	(INT) 02
HILTON, A.	*Racism, Race Relations, Conflict Resolution*		
	Ethnic Relations	ANOPC	(EXT) 02
	Psychological Needs and Ethnic Relations in Quebec	CASA	(INT) 02
HOOPER, W.	*Industrial Organizational Psychology, Carrier Counselling, Psychological Measurements and Testing, Psychometrics*		
	Research on Management Selection Procedures	ANOPC	(EXT) 02
JANS, J.	*Developmental Psychobiology, Control of Milk Ejection, Early Environmental Influences*		
	Factor Associated with Weaning Rats	NSERC	(INT) 02
KALOUPEK, D.	*Anxiety Disorders, Psychosomatic Reactions, Fear, Post-Traumatic Stress, Psychopathology*		
	Medical Stress Research	ANOPC	(EXT) 02
KLINE, R.	*Psychological Assessment, Alcohol/Alcoholism, Child Cognitive Assessment*		
	Parameters of Judgement of Test Accuracy by Clinical Psychologists and Trainees: A Pilot Project	SSHRC	(INT) 02
KOMODA, M.	*Perceptual and Cognitive Processes, Word Recognition in Reading, Eye Movements and Perception*		
	Etudes de la lecture dans une langue seconde (Poulin-Dubois, D., Segalowitz N.)	FCAR	(EXT) 02

KRUK, R.	*Vision, Motion Perception, Visual-Vestibular Interactions, Visual Aspects of Simulator Sickness*		
	Visual Contributions to Simulator Sickness	MRC CAE	(EXT) 02 (EXT) 02
	Temporal and Spatial Characteristics of Perceived Motion	NSERC	(EXT) 02
LADD, H.	*Neurologically Handicapped Young Adults and Children, Rehabilitation Medicine, Neurologically Delayed Development*		
	Evaluation and Rehabilitation of both the Neurologically Delayed Child and the Developmentally Delayed Child	ANOCC	(EXT) 02
	Quantitative Evaluation of Nerve/Muscle Function in the Neurologically Handicapped	PHHT	(EXT) 02
LAURENCE, J.-R.	*Hypnosis, Nonconscious Processing of Information, Hypermnesia, Memory Creation, Automaticity*		
	Mécanismes cognitifs sous-jacents aux modifications spontanées et suggerées de la mémoire (Perry, C.)	FCAR	(EXT) 02
	Distortions of Memory and Perception in Hypnosis and Alertness	NSERC	(EXT) 02
MILLER, S.	*Health Psychology, Psychophysiology, Hypertension*		
	Cardiovascular Patterns of Responses to Psychological Stress and the Risk of Hypertension	NSERC	(INT) 02
OVERBURY, O.	*Perceptual Assessment, Perceptual Training, Perceptual Complexity, Spatial Contrast Sensitivity, Visual Disorders*		
	Perceptual Skills and Spatial Contrast Sensitivity: Plasticity and Visual Impairment	NSERC	(EXT) 02
	Early Diagnosis and Intervention in Glaucoma: A Comparison among Psychophysical Techniques	CDHW	(EXT) 02
PERRY, C.	*Hypnosis Forensic Psychology, Eye Witness Testimony, Confabulation, Pain, Amnesia, Historical Age Regression*		
	Errors of Memory and Hypnotic Hypermnesia	NSERC	(EXT) 02
	See LAURENCE, J.-R.		

	RESEARCH INTEREST / GRANT TITLE	AGENCY	TYPE
POULIN-DUBOIS, D.	*Categorization, Infancy, Semantic Meaning, Development, Language, Cognition*		
	Cognitive Constraints on Acquisition of Object Words	NSERC	(EXT) 02
	The Emergence of Categorization Among Preverbal 12–14 Month-Old Infants	SSHRC	(EXT) 02
	See KOMODA, M.		
ROCHEFORD, J.	*Environmentally-Induced Analgesia, Spinal Chord Analgesic Substrates, Appetitive/Aversive Affective States*		
	Can Frustration Alter Sensitivity to Pain?	FCAR	(INT) 02
	Investigations of Spinal Mechanisms Mediating Conditioned, Naloxone Induced, and Stress-Induced Analgesia	FCAR	(EXT) 02
ROMPRE, P.-P.	*Psychopharmacology, Pharmacology of Dopamine Neurons, Physiological Psychology*		
	Etudes électrophysiologiques et pharmacologiques des neurons responsables du comportement d'autostimulation intracérébrale	FRSQ	(EXT) 20
	Substrats neuraux du renforcement intracérébral	FCAR	(EXT) 02
	Anatomie et physiologie des fibres mesencéphaliques et rhombencéphaliques responsables du renforcement intracérébral	NSERC	(EXT) 02
	Behavioural Studies of the Pharmacological Properties of Dopamine Neurons	MRC	(EXT) 02
	See SHIZGAL, P.		
SCHWARTZMAN, A.	*Childhood Aggression and Withdrawal as Risk Factors for Adult Mental Disorders*		
	Childhood Risk Factors for Adult Mental Disorders (Serbin, L.)	NIMH	(EXT) 02
SEGALOWITZ, N.	*Psychology of Language Learning, Cognitive Psychology, Bilingualism, Adult Language Learning*		
	Piano Performance and Memory Strategies: A Practice Analysis	SSHRC	(INT) 02
	Psychological Study of Skilled Performance in Music	ANCPC	(EXT) 02
	See KOMODA, N.		

SERAGANIAN, P.	*Multiple Drug Abuse, Treatment and Recovery, Psychosocial, Cardiovascular and Psychological Reactivity*		
	Aerobic Fitness Level and Psycho-physiological Reactivity	CASA	(INT) 02
SERBIN, L.	*Social Stereotyping in Young Children, Longitudinal Studies of Children at Risk for Major Disorders, High Risk Mothers*		
	Les stereotypes sociaux et le rapport d'amitie: une approche developpemental (Doyle, A.-B., White, D.)	FCAR FCAR	(EXT) 02 (EXT) 03
	Centre for Research in Human Development (Centre Grant)	FCAR FCAR	(EXT) 02 (EXT) 03
	Gender Concepts and Gender Segregation during the First Three Years of Life	SSHRC	(EXT) 02
	See SCHWARTZMAN, A.		
SHIZGAL, P.	*Physiological Psychology, Electrophysiology, Motivation*		
	Programable Pulse Generator for Electrophysiological Experiments	NSERC	(INT) 03
	Neural Mechanisms Subserving Behavioural and Psychological Contributions to Homeostasis in the Rat (Amir, S., Rompre, P.-P.)	FCAR	(EXT) 02
	Psychophysical Studies of Brain Stimulation Reward	NSERC	(EXT) 02
	Electrophysiological and Anatomical Studies of Brain Stimulation Reward in the Rat	MRC	(EXT) 02
SINYOR, D.	*Stress, Exercise, Psychological Benefits Accompanying Aerobic Exercise*		
	Parameters Influencing the Cardiovascular and Psychological Response to Acute Exercise	ANOPC	(EXT) 02
SMITH, B.	*See AMIT, Z.*		
STEWART, J.	*Psychopharmacology, Sexual Differentiation, Appetitive Motivation*		
	Conditioned Physiological Changes to Repeated Administration of Psychoactive Drugs	MRC	(EXT) 02
	Hormonal, Experiential and Neural Determinants of Sex Differences in Behaviour	NSERC	(EXT) 02
	See WISE, R.		

TAYLOR, N.	*Atypical Infant and Child Development, Memory in Low Risk Preterms, Pretend Play in Developmental Delay*		
	A Study of Longterm Memory in Preterm and Fullterm Infants with the Mobile Conjugate Reinforcement Paradigm	ANOPC	(EXT) 02
TESSIER, O.	*Contraintes sociale, amitié, jeux symboliques, connaissance social*		
	Une étude des contraintes sociales dans le développement des activités ludiques symboliques (Strategic)	SSHRC	(EXT) 02
VON GRUNAU, M.	*Visual Perception, Psychophysics, Motion, Form, Stereo, Color, Facial Expressions, Visual Search, Attention, Visual Streams*		
	Psychophysical Investigations of Human Motion Systems	NSERC	(EXT) 02
WHITE, D.	*Child Health, Obesity, Diabetes, Effects of Day Care*		
	Research on Child Development and Health	ANOPC	(EXT) 02
	See SERBIN, L.		
WISE, R.	*Behavioural Pharmacology, Physiological Psychology, Addiction*		
	Centre for Studies in Behavioural Neurobiology (Centre Grant)	FCAR FCAR	(EXT) 02 (EXT) 03
	Rat Model of Intravenous Drug Abuse	MRC	(EXT) 02
	MFB Motivational Mechanisms	NSERC	(EXT) 02
	Neural Substrate of Cocaine Abuse	USHEW	(EXT) 02
	Neurobiology of Ethanol Abuse	USHEW	(EXT) 02
	Brain Dopamine and Behaviour (Gratton, A., Stewart, J.)	FCAR FCAR	(EXT) 02 (EXT) 03
WOODSIDE, B.	*Behavioural Endocrinology, Reproductive Behaviour, Maternal Behaviour, Diet Selection*		
	Hormone-Environmental Interactions and Maternal Behaviour in the Rat	NSERC	(EXT) 02
	Factors Mediating the Effects of Food Restriction on the Duration of Lactational Acyclicity in the Rat	MRC	(EXT) 02

BIRD, F.	*See* LIGHTSTONE, J.		
COLLINS, S.	*Theravada Buddhism in South and Southeast Asia, Comparative Philosophy of Religion*		
DAVIS, C.	A Social History of the Buddhist Nirvana	ANOPC	(EXT) 02
LIGHTSTONE, J.	*See* SYNNOTT, A. (Sociology & Anthropology)		
	Ancient Judaism, Contemporary Judaism, Sociological and Anthropological Study of Religion		
	The Sociological Study and Reconstruction of Communities Within Ancient Judaism and Early Christianity (AD 50-312)	SSHRC	(INT) 02
	Rituels religieux et configuration sociale: Une etude de congregations juives contemporaines (Bird, F.)	FCAR	(EXT) 02
NEHORAI, M.	*Philosophy of Religion, History of Philosophy, Medieval Jewish Thought*		
ROBINSON, I.	The Interpretation of Rabbi Shlomo Ben Yehuda Hanasi on Maimonides, Guide of the Perplexed	SSHRC	(INT) 02
	Kabbala and Its Popularization, Development of Orthodox Judaism in North America, Origins and Development of Conservative Judaism		
	Cyrus Adler: The Biography of an American Jew	SSHRC	(EXT) 02

CHOM-OF COMMUNITY & PUBLIC AFFAIRS

MENDELL, M.	*Political Economy, Karl Polanyi, History Economic Thought, Public Policy*		
POLANYI-LEVITT, K.	In support of the Karl Polanyi Institute of Political Economy	QUEEN	(EXT) 02
SHAPIRO, D.	In support of the Karl Polanyi Institute of Political Economy	ANOPC	(EXT) 02
	Antitrust Economics, Mergers, Industrial Policy, Foreign Ownership, Defence Economics		
	An Analysis of Canadian Merger Policy	DCCA	(EXT) 01

CENTRE E—MUSÉE DE L'HOMME

AINLEY, M.	*History of Canadian Women in Science and Technology, History of Canadian Science 19th and 20th centuries*		
	Canadian Women and Scientific Work (Strategic)	SSHRC	(EXT) 02

RAZACK, S.	*Women, Education, Community Activism*		
	The Research Need of Women and Minorities as Equality Seekers	FCAR	(INT) 02
SHERWOOD, J.	*Medicine, Medical Treatment of Women*		
	Medical Care of Infants in Spain, 1750-1850	HIMH	(EXT) 02

SOCIOLOGY & ANTHROPOLOGY

CHODAK, S.	*State Market Interplay in the West and the USSR, Theory of Development, Soviet Union*		
	Marketization of Societal Condition in the West and in the Soviet Union	SSHRC	(INT) 02
COLLARD, C.	*Social Organization, Quebec, Kinship, Sex Gender Systems, Cultural/Social Anthropology*		
	Traitement informatisé de l'alliance a Rivière-Fremiotte	SSHRC	(EXT) 02
DE VRIES, P.	*Rural Cape Breton Island, Community, Gender Relations, Coping with Economic Marginality*		
	Individuals, Households and Communities: A Comparative Study of Coping in Two Cape Breton Localities, 1871-1988	SSHRC	(EXT) 02
GRENIER, L.	*Popular Culture, Media, Music, Popular Music, Radio, Quebec*		
	Musique, espaces-temps et alterite	SSHRC	(EXT) 02
	Les musiques des radios, programmation et publicite. Le cas de l'Estrie	FCAR	(INT) 02
HOECKER-DRYSDALE, S.	*Harriet Martineau, Classical Social Theory: 19th and 20th Centuries, Women in Early Canadian Sociology, Women and Work*		
	The Sociology of Harriet Martineau	ANOPC	(EXT) 02
HOWES, D.	*Anthropology of Perception, Medicine, Law, Canadian Popular Culture, Constitutional Studies*		
	Sensory Bias Associationism	MUSCI	(EXT) 02
	Melanesian Sensotypes	CASA	(INT) 02
	See SYNNOTT, A.		

JACKSON, J.	*Sociology of Culture, Radio Drama Community Studies*		
	Radio Drama Studies	ANOPC	(EXT) 02
	Canadian Cultural Development, Central and Regional Voices: The Case of CBC English-Language Radio Theatre	SSHRC	(EXT) 02
JONASSOHN, K.	*Comparative Study of Genocides, Sociology of Aging*		
	The Uninvited: Refugees at the Gates of Canada and the West (Tyrnauer, G.)	FCAR	(INT) 02
	In support of the Montreal Institute for Genocide Studies	ANOPC	(EXT) 02
LEGROS, D.	*Cultural and Social Anthropology, North American Indians, Yukon Territory History, Athapaskan Indians in Northwest Territories*		
	Fort Selkirk: Yukon Tutchone Indians in 1843-1852	SSHRC	(EXT) 02
	Research into the Relationships Between Economic and Symbolic Structures in Arctic and Sub-Arctic Traditional Societies	ANOPC	(EXT) 02
REIMER, W.	*Canadian Society, Research Methodology, Rural Sociology*		
	The Impact of Technology on Rural Communities	SSHRC	(INT) 02
	Parish Study	ANOFC	(EXT) 01
	Rural Deprivation - A Canadian/U.S.A. Comparison (Shaver, F.)	ANOFC	(EXT) 02
SHAVER, F.	*Women in Agriculture, Human Sexuality, Rural Poverty/Deprivation, Sex Work, Policy Analysis*		
	Challenging our Views - Prostitution in Canada	SSHRC	(EXT) 02
	Prostitution in Canada - Review and Critique of the Literature	FCAR	(INT) 02
	See REIMER, W.	ANOFC	(EXT) 02
SMUCKER, J.	*Government Labour Market Policies in Canada and Sweden, Technological Change, Labour Adjustment*		
	The Role of Provinces and Municipalities in Labour Market Programmes	SSHRC	(INT) 02

	RESEARCH INTEREST / PROJECT TITLE	GRANT	DATE
SYNNOTT, A.	*Sociology of the Body and the Senses*		
	The Anthropology of Odours	MUSCI	(EXT) 02
	The Varieties of Sensory Experience II (Bross, M. Department of Psychology, Davis, C., Department of Religion, Howes, D.)	SSHRC	(EXT) 02
TYRNAUER, G.	*See JONASSOHN, K.*		

FINE

ACHESON, P.	*See LIGHTBOWN, P.*		
LIGHTBOWN, P.	*Second Language Acquisition, Second Language Teaching in Schools, Bilingualism in Education*		
	L'apprentissage et l'enseignement des langues secondes dans des programmes innovateurs (Acheson, P., Upshur, J.)	FCAR FCAR	(EXT) 02 (EXT) 03
PALMER, J.	*Applied Linguistics, Semantics, Relationship Written and Spoken Language*		
	Modern English Grammar: Form and Function	ANOPC	(EXT) 02
UPSHUR, J.	*See LIGHTBOWN, P.*		

THEOLOGICAL STUDIES

MOROZIUK, R.	*Systematic Theology, History and Theology of Byzantine/Slavik Christianity*		
	The History of Christianity in Ukraine 988-1988, A Bibliography	FCAR	(INT) 02
McEVENUE, S.	Biblical Sources, Literary Theory Research in Biblical Sources	ANOPC	(EXT) 02

The Faculty of Commerce and Administration continue
to be a productive and innovative faculty whose researc
activities reflect both academic excellence and the re
world concerns of the business sector. Faculty in all d
partments have successfully competed for funds fro
both federal and provincial governments, and from t
private sector. This activity has resulted in a reco
number of faculty publications in academic journals an
participation in international and national meetings.

This Directory illustrates the diversity
research interests of our faculty. Research in the area
commerce covers many topics using a variety of tools an
perspectives. The Faculty of Commerce continues
provide innovative approaches to research which mee
the needs of an increasingly competitive business env
ronment.

FACULTY OF COMMERCE AND ADMINISTRATION

ALY, I.	*Financial Accounting, Bankruptcy, Acquisitions, Mergers*		
	The Usefulness of the Proportional Hazards Model in Identifying the Characteristics of Canadian Corporate Takeovers: An Empirical Study	SC	(INT) 02
	The Usefulness of Alternative Accounting Measures in Predicting Industrial Bond Rating Changes: An Empirical Study	SSHRC	(INT) 02
COLLINS, R.	Extent and Implications of the Valuation of Brand Names so far as it Concerns Internal Decision-Making, External Reporting and the Setting of Accounting Standards	CASA	(INT) 02
GHEYARA, K.	Quarterly Earnings and Equilibrium Prices: An Empirical Evaluation for Information (Kanaan, G., Simyar, F.)	CASA	(INT) 02
KANAAN, G.	*See GHEYARA, K.*		
SEGOVIA, G.	*Management Accounting, Management Control Systems, Performance Evaluation, Incentive Compensation Systems*		
	The Lack of Relevance and Usefulness of Management Accounting Systems: Myth or Reality?	SCMC	(EXT) 02
SIMYAR, F.	*See GHEYARA, K.*		

BOURJOLLY, J.-M.	*Operations Research-Management Science, Optimization, Integer Programming, Line Balancing, Capital Budgeting*		
	Design and Implementation of Algorithms in Operations Research	NSERC	(EXT) 02
ETEZADI-AMOLI, J.	*End-User Computing Satisfaction, Multiple Attribute Decision Making Survival Analysis*		
	Measurement and Evaluation of End User Computing Satisfaction	SSHRC	(EXT) 02
	Analysis of Failure Time Data	SSHRC	(INT) 02

RESEARCH INTERESTS/PROJECTS	AGENCY	TYPE
FARHOOMAND, A.	*Strategic Use of Information Systems, Management of Technology, Electronic Data Interchange*	
	Development of an Instrument for the Evaluation of Information Systems Security and Control	SSHRC	(INT) 02
	Temporal Study of Electronic Data Interchange (EDI) Adoption Process in Small Business Context	SSHRC	(INT) 02
GOYAL, S.	*Management Science, Production Planning, Economic Manufacturing Policy*	
	Determination of a Supplier's Economic Manufacturing Policy	NSERC	(EXT) 02
KHALIFA, M.	*Human-Computer Interaction, Decision Support Systems, Systems Analysis and Design*	
	Predicting Ease of Learning Interactive Computer Systems	FCAR	(INT) 02
KIRA, D.	*Computer Management Information Systems, Systems Design and Development, Decision Analysis, Office Automation*	
	A Decision Support System (DSS) for a Capital Budgeting Process	CASA	(INT) 02
KUSY, M.	*Stochastic Optimization, Algorithmic Development, Statistical Quality Control, Liability Management, Project Management in China*	
	Algorithms for Stochastic Linear Integer Programmes with Application to Financial Planning	NSERC	(EXT) 02
MACGIBBON-TAYLOR, B.	Théorie de la decision et inegalites	NSERC	(EXT) 02
MAK, T.	*Statistics Regression, Functional Relationships, Structural Relationships, Asymptomatic Theories*	
	Functional Relationships and Related Models	NSERC	(EXT) 02
MORIN, D.	*Quadratic Forms, Special Functions, Multivariate Statistics, Time Series, Econometrics, Finance, Event Analysis*	
	Study of Spatial Autocorrelation in the Data and Applications	FCAR	(INT) 02
NEBEBE, F.	*Bayesian and Empirical Bayes Methods in Statistics, Shrinkage Estimation, Bootstrap and Resampling Methods*	
	Shrinkage Estimation in the Inverse Gaussian Model	NSERC	(INT) 02
	Bayesian and Empirical Bayes Shrinkage Estimation	NSERC	(EXT) 02

KEY SELECTED RESEARCH INTERESTS	AGENCY	TYPE
PEDERZOLI, G.	*Operations Research and Statistics, Geometric Probability, Applied Decision Analysis, Quantitative Methods*	
	Cost Allocation Models	NSERC	(EXT) 02
POLITOF, T.	*Operations Research, Management Science, Network Reliability, Communication Networks, Polynomial Algorithms, Graph Theory*	
	Efficient Algorithms for Network Reliability Computations	NSERC	(EXT) 02

FINANCE

ANVARI, M.	*Financial Management, Treasury Management, International Financial Management, Banking, Small Business*		
	Pareto Optimal Billing Policies	SSHRC	(EXT) 02
	Electronida Data Interchange & Inventories	NSERC	(EXT) 02
GHALBOUNI, J.	The Effects of Transaction Costs on the Pricing of Options, Currencies and Swaps	SSHRC	(INT) 02
JALILVAND, A.	*Corporate Finance, Banking Regulations, Financial Econometric Models, Finacial Decisions of Regulated Firms, Country Risk, Bankruptcy*		
	A Simulation Approach for Corporate Debt Management Decisions	SC	(INT) 02
KRYZANOWSKI, L.	*Capital Markets and Investments, Corporate Finance, Bankruptcy Solvency, Small Business Finance, Taxes and Taxation*		
	Expert Systems for Credit-Granting Decision-Making	SSHRC	(EXT) 02
	Asset Pricing Models: Theory, Empirical Tests and Applications (Switzer, L.)	FCAR FCAR	(EXT) 02 (EXT) 03
LYPNY, G.	*Experimental Capital Markets*		
	An Examination of the Determinants of Asset Prices in Experimental Markets	CASA	(INT) 02
NADER, J.	*Pension Economics and Finance, Duration-Based Strategies, Valuation of Pension Claims*		
	Individual Hedging with Financial Futures: An Unexplored Solution to the Pension Indexing Controversy in Canada	CASA	(INT) 02
SWITZER, L.	*See KRYZANOWSKI, L.*		

FACULTY OF COMMERCE AND ADMINISTRATION CONT'D	RESEARCH INTERESTS / PROJECT TITLE	AGENCY	TYPE
ASHFORTH, B.	*Leadership, Socialization, Effect of Organizational Structure on Individuals, Organizational Control, Work Motivation*		
	Organizational Socialization and the Adjustment of Newcomers	SSHRC	(INT) 02
CRAWFORD, R.	*Applied Personnel Research, Training and Development, Strategy and Tactics*		
	Core Militia Training Programme Phase I	SNCD	(EXT) 01
IBRAHIM, A.B.	*Strategic Management, Entrepreneurship and Small Business, Franchising, Small Business Strategy, Small Business Management*		
	Success Stories of Canadian Companies doing Business with Japan	CDEA	(EXT) 01
JOHNS, G.	*Absence from Work, Employee Turnover, Employee-Organization Linkages*		
	Constrainis on Work Absence and Attendance	SSHRC	(EXT) 02
MCGUIRE, J.	Executive Compensation, Firm Strategy and Firm Performance (Strategic)	SSHRC	(EXT) 02
OPPENHEIMER, R.	*Conflict Management, Mediation, Negotiation Power, Human Resources, Organizational Change, Management: Selection Interviewing*		
	The Effectiveness of the Practices used by the Canadian Life and Health Insurance Association Members regarding Staffing, Managing Stress, Implementing Change and Resolving Conflict	CLHIA	(EXT) 02
SAKS, A.	*Socialization Work Adjustment, Career Development, Self-Efficacy, and Recruitment*		
	The Influence of Socialization Experiences on the Career Development and Work Adjustment of Newcomers: A Comparative Longitudinal Investigation	CASA	(INT) 02
WIESNER, W.	*Employment Interviewing, Group Decision-Making, Realistic Job Previews*		
	The Use of Employment Interviews in the Hiring of Life Insurance Sales Personnel	**CLHIA**	**(EXT) 02**
	Effects of Member Dominance in Interview Boards	**SSHRC**	**(EXT) 02**
	Evaluation of CODAP System	**ANOCC**	**(EXT) 02**

FACULTY OF COMMERCE AND ADMINISTRATION CONT'D

DE BRENTANI, U.	*New Product Development, Marketing, Developing New Business Services, Services Marketing, New Product Screening*		
	Developing New Services: Empirical Study of Success and Failure	SSHRC	(EXT) 02
HUI, M.	*Services Marketing, Consumer Behaviour, Ethnic Consumption*		
	Perceived Control and the Service Experience	SSHRC	(INT) 02
JOY, A.	*Culture and Consumption, Marketing and Development, Corporate Patronage of the Arts*		
	Corporate Patronage of the Arts and Corporate Image: Implications for Marketing	SSHRC	(INT) 02
	See LAROCHE, M.		
KIM, C.	*Family Decision Making, Ethnicity and Consumer Behaviour, Consumer Decision Making*		
	English-French Canadian Ethnicity and its Moderating Effects on Consumption Patterns	ANOPC	(EXT) 02
	Adolescent Power, Influence Strategy, and Influence in Family Purchase Decisions	CASA	(INT) 02
	See LAROCHE, M.		
LAROCHE, M.	*Consumer Behaviour Research and , Applications, Culture, Acculturation and Consumption Behaviour, Communication and Advertising Research*		
	Analysis of the Effects of Attitudinal and Behavioural Dimensions of Subculture on Consumption Behaviour in Canada	SSHRC	(EXT) 02
	Etude experimentale de la relation entre appartenance culturelle et comportement de consommation (Joy, A., Kim, C.)	FCAR	(EXT) 02
McGOWN, K.L.	*Market Research, Consumer Attitude Tracking, Focus Groups, Longitudinal Measurement*		
	Pharmaceutical Management Centre Feasibility Research Project	PFIZ CEIBA MERCK SQUIB	(EXT) 01 (EXT) 01 (EXT) 01 (EXT) 01
PASOLD, P.	*Development of Marketing Simulations, Decision Support Systems in Marketing, Role Stereotyping in Advertising*		
	The Development of Marketing Simulations	ANOCC	(EXT) 02

The Faculty of Engineering and Computer Science continues to conduct research in the major disciplines of Building Studies, Civil Engineering, Computer Science, Electrical and Computer Engineering, and Mechanical Engineering. It has also established the following research centres to promote university/industry linkages which are operating successfully.

CENTRE FOR BUILDING STUDIES (CBS)

The Centre for Building Studies, established in 1977, is unique in the country and reflects Concordia's response to the needs of the construction industry, one of the largest in Quebec. Supported by funding from government and industry, **CBS** is involved in all aspects of R&D related to building enclosures and services.

CENTRE FOR INDUSTRIAL CONTROL (CIC)

CIC conducts R&D of industrial types of control and automation with special emphasis on real time microprocessor control of mechanical systems, including intelligent robotic workcells with camera vision, low cost flight simulators, training units for the physically handicapped, fuel control systems, electrohydraulic servosystems, and computer integrated manufacturing and assembly.

CENTRE FOR PATTERN RECOGNITION AND MACHINE INTELLIGENCE (CENPARMI)

CENPARMI conducts studies on expert systems, recognition and image enhancement techniques applied to process documents and data forms, envelopes, deposit slips, utility bills, engineering drawings, maps, fingerprints, and others.

CENTRE FOR SIGNAL PROCESSING AND COMMUNICATIONS (CONSIPCOM)

Researchers in this centre are engaged in the investigation of mathematical foundations and practical implementations of a wide range of problems in signal processing and communications: structural signal processing (beamforming and sonar arrays); design, implementation, and stability problems of multidimensional digital systems; parallel algorithms and architectures for low and high level image processing; spread-spectrum, modulation and coding; ISDN.

CONCORDIA COMPUTER AIDED VEHICLE ENGINEERING (CONCAVE)

This research centre was established through an Actions Structurantes grant from the Government of Quebec. Through the use of its state-of-the-art equipment, the centre carries out projects for industry and government, including advanced laboratory and field testing of vehicles; computer simulation; development of computer software for optimal design and systematic analytical development in vehicle engineering. ■

The Faculty also participates actively as a partner in the following research centres/ organizations

Computer Integrated Manufacturing Centre (CIMCENTRE)

The Faculty is an active participant of CIMCENTRE, a specialized unit of Centre québecois pour l'informatisation de la production (CQIP).

Computer Research Institute of Montreal (CRIM)

The Departments of Electrical and Computer Engineering and Computer Science are linked with the Computer Research Institute of Montreal (CRIM), a consortium of four Montreal universities - Concordia, Universite de Montreal, Universite du Québec à Montreal, and McGill University.

Societe d'informatique et de recherche pour l'industrie de la construction (SIRICON)

This non-profit corporation performs research and development work related to computer applications for the construction industry.

The Faculty has also placed emphasis on specific research programmes to reflect demands arising from rapid technology development in the following areas: Indoor environnement, building performance, computer applications in transportation and geotechnical engineering, environmental impact, pattern recognition, machine intelligence, VLSI architecture, intelligent systems and robot control, image/ signal processing, power electronics, fibre optic communication networks, advanced VLSI design and testing techniques, computer integrated manufacturing, composite materials, vehicule dynamics, knowledge based diagnostics and reliability. ■

FACULTY OF ENGINEERING AND COMPUTER SCIENCE

DEANS OF ENGINEERING

	RESEARCH PROJECT	AGENCY	EXT
LI, H.F.	VLSI Research (Ahmad, M., Al-Khalili, A., Haroun, B., Swamy, M.N.S., Thulasiraman, K., Department of Electrical and Computer Engineering, Jayakumar, R., Probst, D., Department of Computer Science)	CMICC	(EXT) 03

CHAIRS

ALKASS, S.	*Construction Management*		
	An Integrated Computer System to Establish Output Rate and Advice on Methods for Improving Concrete Quality	CASA	(INT) 02
ATHIENITIS, A.	*Building Thermal Systems, Solar Heating, Radiation, Windows, Computer-Aided Building Design*		
	Investigation of Techniques for Simultaneous Improvement of Thermal Comfort and Energy Efficiency in Passive Solar Buildings	CEMR	(EXT) 02
	Investigation of Building Thermal Dynamics and Performance-Based Control	FCAR	(EXT) 02
	Modelling of Building - HVAC Dynamics and its Use for Energy Management	NSERC	(EXT) 02
	Test-Room for Computer-Controlled Heating and Building Thermal Studies	NSERC	(EXT) 03
	See FAZIO, P.		
BEDARD, C.	*Computer-Aided Building Design (CABD), Knowledge-Based Expert Systems, Structural Engineering, Composite Rebars*		
	Knowledge-based Simulation of the Design Process for Building Structural Systems	NSERC	(EXT) 02
	Étude d'opportunité (technico-commerciale) sur l'utilisation des barres Isorod comme armature dans les structures	FULTR	(EXT) 01
	See FAZIO, P.		

EL DIASTY, R.	*Buildings' Thermal, Moisture and Daylighting Performance, Buildings' Energy Efficiency, Conservation and Management*		
	Quantitive Basis for Improved Design of Building Envelopes	NSERC	(EXT) 02
	Daylight Utilization to improve Energy Efficiency of Buildings	CEMR	(EXT) 02
	See FAZIO, P		
FAZIO, P.	*Building Envelope and Behaviour of Panelized Systems, Building Engineering and Diagnostics, Energy Efficiency, Indoor Environment*		
	Building Enclosure Systems and their Components: Planning, Design and Construction (Athienitis, A., Bédard, C., El-Diasty, R., Feldman, D., Haghighat, F., Low, N., Marsh, C., Moselhi, O., Stathopoulos, T., Zmeureanu, R.)	FCAR FCAR	(EXT) 02 (EXT) 03
	Projets de recherche et développement d'outils d'analyse et de conception appliqués aux batiments et à leur environnement (Actions structurantes)	MESS	(EXT) 02
	Research in the Building Envelope	CASA	(INT) 02
	Performance of Building Systems, Components and Processes	NSERC	(EXT) 02
	Mise à jour de la banque de données statistiques du modèle informatique PARO-énergie et validation	MERQ	(EXT) 01
	Centre for Building Studies (Centre Grant)	FCAR	(EXT) 02
	Computer Facilities for Research in Building Engineering (Infrastructure) (Athienitis, A., Bédard, C., Haghighat, F., Marsh, C., Stathopoulos, T., Zaheeruddin, M.)	NSERC	(EXT) 20
FELDMAN, D.	*Polymers as Building Materials, Polymer Blends, Polymer Science*		
	Dual Sample Differential Scanning Calorimeter	NSERC	(EXT) 03
	Polymers for Energy Conservation and Solar Energy Applications	NSERC	(EXT) 02
	Organic Polymers in Energy Conservation	NSERC	(INT) 02

FELDMAN, D.	Steam-Exploded Lignin Utilization as a New Additive for Building Materials	FORIN	(EXT) 01
	Performance Testing of Sealants using a Cyclic Movement Device	NSERC	(INT) 03
	Lignin Application in Construction Materials (Strategic)	NSERC	(EXT) 02
	DSC Diffusion Curves and Weep Tests for Stearate - Palmitate Mixtures (Phase I)	ANOCC	(EXT) 01
	See FAZIO, P.		
GUY, R.	*Acoustics, Noise and Vibration, Measurement Signal Analysis, Intensity Measurement and Sound Power*		
	Measurement and Prediction of Sound Transmission in Finite Surrounds	NSERC	(EXT) 02
HA, H.K.	*Finite Element Analysis, Structural Systems*		
	Structural Systems and Components	NSERC	(EXT) 02
HAGHIGHAT, F.	*Indoor Air Quality, Ventilation, Effectiveness Building Thermal Analysis, Solar Engineering System Theory*		
	Adaptive Control Strategies for Buildings	NSERC	(EXT) 02
	Air Quality and Thermal Comfort - Development of a Model for Predicting Air Movement in Buildings (Zaheeruddin, M.)	FCAR	(EXT) 02
	See FAZIO, P.		
LOW, N.	*Thermal Insulation*		
	Studies of the Long Term Durability of Thermal Insulating Materials	NSERC	(EXT) 02
	See FAZIO, P.		
MARSH, C.	*Stressed Applications of Aluminum, Lattice Space Structures, Engineering Properties of Materials, Bolted Joints*		
	Nonlinear Analysis of Structure Up to Collapse	NSERC	(EXT) 02
	See FAZIO, P.		
MOSELHI, O.	***Construction Planning, Scheduling, Cost Estimating, Risk Analysis, Quality Safety and Control, Software Systems in Construction***		
	Automation in Construction Project Management	**WUSC** **NSERC**	**(EXT) 02** **(EXT) 02**
	See FAZIO, P.		

STATHOPOULOS, T.	*Wind Effects on Buildings, Wind Environmental Conditions, Wind Codes and Standards - Specifications*		
	Wind Effects on Buildings and Their Codification	NSERC	(EXT) 02
	See FAZIO, P.		
WANG, J.C.	*Heat Recovery Systems, Condensation of New Refrigerants, Heat Exchangers*		
	Study of Air-to-Air Heat Recovery for Buildings, Thermal Contact Resistance in Fin-Tubes for Space Heating, and Condensation Problems in Buildings	NSERC	(EXT) 02
ZAHEERUDDIN, M.	*Control Systems for HVAC, Indoor Environment, Energy Efficient Buildings*		
	Optimized Microprocessor Control Strategies for Buildings	NSERC	(EXT) 02
	Optimal Control of a Variable Air Volume	CEMR	(EXT) 02
	See FAZIO, P.		
	See HAGHIGHAT, F.		
ZMEUREANU, R.	*Building Environment, Building Energy Analysis, Design of Energy Efficient Buildings, Computer-Aided Design, HVAC*		
	Design of Energy-Efficient Buildings	NSERC	(EXT) 02
	Analyse énergétique - 700 rue de la Gauchetière	BC	(EXT) 01
	See FAZIO, P.		

BUDKOWSKA, B.	*Soil Mechanics, Frozen Soil and Structures Embedded in Soils*		
	Constitutive Equations for Frozen Soils and Analysis of Piles Embedded in Frozen Soils	NSERC	(EXT) 02
CARBALLADA, L.	*Hydraulic Engineering*		
	1) Cavitation Free Spillways 2) Multisite Optimisation on Hydropower	NSERC	(EXT) 02
HANNA, A.	*Soil Structure Interaction, Bearing Capacity and Settlement of Foundations, Plate/Helical Anchors and Shell Foundations*		
	Parametric Study on Pile Foundations in Sand	**NSERC**	**(INT) 02**
	Shell Foundations	**CASA**	**(INT) 02**
	1) Pile Foundations - Parametric Study 2) Pullout Capacity of Helical Anchors	**NSERC**	**(EXT) 02**

LU, Y.J.	*Image Processing Applications, Traffic Engineering Traffic Signal Design*		
	Application of Image Analysis to Traffic Monitoring Systems	NSERC	(EXT) 02
PALL, A.	*Friction Damping of Structures*		
	Development of Simplified Design Methods for the Aseismic Design of Buildings with Passive Energy Dissipation Devices	NSERC	(EXT) 02
PEKAU, O.	*Structural Design, Earthquake Engineering, Seismic Performance of Dams, Soil-Structure Engineering*		
	Seismic Cracking of Dams	NSERC	(EXT) 02
	Seismic Performance and Design of Building Structures	NSERC	(EXT) 02
	See ZIELINSKI, Z.		
POOROOSHASB, H.	*Foundation Response to Static and Dynamic Loadings Soil Liquefaction, Soil Structure Interaction, Tailings, Marine Geotechnique*		
	Constitutive Laws and their Application to Geotechnical Engineering	NSERC	(EXT) 02
RAMAMURTHY, A.	*Environmental Fluid Mechanics, Hydraulics, Nonlinear Optimization*		
	Flow Induced Vibration	CASA	(INT) 02
	Laser Doppler Velocimetry	NSERC	(INT) 03
	Characteristics of Lateral Flows a) Branching Flows b) Junction Flows	NSERC	(EXT) 02
SARRAF, S.	*Modelling Open and Ice Covered Water, Ice Hydraulics, Modelling of Effluent Dispersion*		
	Statistical Assessment of Ice Jam Occurrences in Canada	CASA	(INT) 02
	Optimal Use and Management of Surface and Water in Arid Regions (International Collaborative Research Grant)	NSERC	(EXT) 20
	A Ground Station I	NSERC	(INT) 03
	Modélisations mathématiques de l'hydrodynamique de la fonte, de la rupture et du placement des glaces dans les lacs et les rivières	FCAR FCAR	(EXT) 02 (EXT) 03
	Modelling River Flow Conditions Leading to Spring Ice Jamming	NSERC	(EXT) 02
	See HABASHI, W. (Mechanical Engineering)		

SENEVIRATNE, P.	*Transportation Safety, Airport Planning, Pedestrian Planning*		
	Models for Evaluating Transportation System Performance	NSERC	(EXT) 02
TROITSKY, M.	*Orthotropic Bridges, Cable Stayed Bridges, Tubular Steel Structures, Steel Bins, Prestressed Steel Structures*		
	Design and Strengthening of Steel Bridges by Prestressing Methods	NSERC	(EXT) 02
	See ZIELINSKI, Z.		
ZIELINSKI, Z.	*Concrete Structures, Synthetic Reinforcement, Segmental Prefabricated Systems, Panel and Module Structures, Large Span Structures, UCOPAN*		
	Graphics Software for a Sun Computer System	FCAR	(INT) 03
	Performance Evaluation and Design of New and Conventional Structural Systems (Pekau, O., Troitsky, M.)	FCAR FCAR	(EXT) 02 (EXT) 03
	Thin Wall Panel/Module Segmental Structures	NSERC	(EXT) 02

ALAGAR, V.	*Formal Specification of Software Systems and Algorithms*		
	Complexity of Secure Computations	NSERC	(EXT) 02
	Specification and Design of Complex Real-Time Systems and their Reliability	FCAR	(INT) 02
	See LI, H.F.		
	See McKAY, J.		
ATWOOD, J.	*Computer Communication Protocol Design, Distributed Operating Systems, Concurrent Programming Languages*		
	Analysis of the Express Transfer Protocol (XTP)	ANOPC	(EXT) 02
BOOM, H.	*See OKADA, M.*		

BUI, T.	*Mathematical Modelling and Computer-Aided Design, Computational Methods and Software, Large Scale Computations*		
	Numerical Methods for the Analysis, Modelling and Simulation of Complex Systems (Doedel, E., Li, Z.-C.)	FCAR	(EXT) 02
	Efficient Algorithms for Numerical and Combinatorial Problems	NSERC	(EXT) 02
	Non-Linear Shape Transformations	FCAR	(INT) 02
	See HABASHI, W. (Mechanical Engineering)		
DESAI, B.	*Database Management Systems, Intelligent Systems, Artificial Intelligence, Expert Systems*		
	User Friendly Interface to Information System	CWARC	(EXT) 01
	See GOYAL, S.		
DOEDEL, E.	*Numerical Analysis, Differential Equations, Nonlinear Analysis*		
	Numerical Analysis and Control of Bifurcation Problems	NSERC	(EXT) 02
	See BUI, T.		
FORD, D.	*Algorithms in Computational Algebra and Computational Number Theory*		
	Development of Algorithms in Algebra and Number Theory	NSERC	(EXT) 02
	See LAM, C.		
	See McKAY, J.		
GOYAL, P.	*Object-Oriented Databases, Software Engineering, Distributed Databases*		
	Information Storage, Organization and Retrieval	NSERC	(EXT) 02
	Object Oriented Database Systems (Desai, B., Sadri, F.)	FCAR	(EXT) 02
	See LI, H.F.		
GROGONO, P.	*Programming Languages, Object-Oriented Programming, Software Development*		
	Design and Implementation of a Strongly-Object-Oriented Programming Language	CASA	(INT) 02
	See OKADA, M.		

JAWORSKI, W.	*See BOYD, G. (Education)*		
JAYAKUMAR, R.	*VLSI Architecture and Algorithms, Delay-Insensitive VLSI Systems, Computational Graph Theory*		
	VLSI Algorithms and Architectures	NSERC	(EXT) 02
	See LI, H.F.		
	See LI, H.F. (Dean of Engineering)		
	See SUEN, C.Y.		
KASVAND, T.	*See SUEN, C.Y.*		
KRZYZAK, A.	*Pattern Recognition, Image and Signal Processing, Computer Applications of Statistics*		
	Pattern Recognition and Modelling of Complex System Using Nonparametric Approach	NSERC	(EXT) 02
	See SUEN, C.Y.		
LAKSHMANAN, V.	*Theory and Design of Relational and Logic Databases, Logic Programming, Logic and Complexity Theory*		
	Query Optimization and Complexity in Deductive Databases	CASA	(INT) 02
LAM, C.	*Enumerative Searches in Combinatorics, Football Pool Problem, Computer and Mathematics*		
	High Performance Workstation (Ford, D., McKay, J.)	NSERC	(EXT) 03
	Combinatorial and Graph Theoretical Search Algorithms (Opatrny, J., Regener, E.)	FCAR	(EXT) 02
	Concordia University Mathematical Computing Laboratory (Infrastructure) (Ford, D., McKay, J.)	NSERC	(EXT) 20
	Computational Mathematics	NSERC	(INT) 02
	Solving Combinatorial Problems by Computer	NSERC	(EXT) 02
	See LI, H.F.		

LI, H.F.	*Distributed Systems and their Development Tools, Concurrent Architectures Involving both Hardware and Software Layers, Delay-Insensitive Systems*		
	Parallel and Distributed Processing Algorithms and Systems	NSERC	(EXT) 02
	Research into Methods for Debugging Distributed Programmes	BNR	(EXT) 02
	Concordia University Distributed Computing Research Laboratory (Infrastructure) (Alagar, V., Goyal, P., Jayakumar, R., Lam, C., Probst, B., Radhakrishan, T., Sadri, F.)	NSERC	(EXT) 20
	Analysis and Synthesis of Delay-Insensitive VLSI Circuits and Systems (Microelectronics Fund - Strategic) (Jayakumar, R., Probst, D.)	NSERC	(EXT) 02
	Conception et validation hiérarchiques de systemes VLSI (Jayakumar, R., Probst, D.)	FCAR	(EXT) 02
	See SUEN, C.Y.		
LI, Z.-C.	*Numerical Analysis, Pattern Recognition, Applied Mathematics*		
	Combined Methods and Software for PDE with Singularities	NSERC	(EXT) 02
	See BUI, T.		
McKAY, J.	*Algebraic Computation Involving Finite Groups, Combinatorics, Modular Forms, and Galois Groups*		
	Conception, réalisation et applications de logiciel algébraique (Alagar, V., Cummins, C., Ford, D.)	FCAR	(EXT) 02
	Development of Computational Techniques in Abstract Algebra	NSERC	(EXT) 02
	See LAM, C.		
OKADA, M.	*Programming Language, Theorem Proving and Automated Reasoning, Logic for Computer Science and A.I., Proof Theory*		
	Application of Logic to Computer Science	FCAR FCAR	(EXT) 02 (EXT) 03
	Equational Programming Language based on Conditional Term Rewriting (International Collaborative Research Grant)	NSERC	(EXT) 20

OKADA, M.	Application of Logic to Programming Language Theory and A.I.	NSERC NSERC	(EXT) 02 (INT) 03
	New Programming Tools and Concepts Based on Intuitionistic Type Theory and Universal Algebra (Boom, H., Grogono, P.)	FCAR	(EXT) 02
OPATRNY, J.	*Network Models and their Properties, Algorithmic Graph Theory, Construction of Compilers*		
	Construction of Large, Fault-Tolerant Network Models	NSERC	(EXT) 02
	See LAM, C.		
PROBST, D.	*Parallel and Distributed Computing Specification and Verification, VLSI Circuits and Systems*		
	Hierarchical Design and Validation of Asynchronous VLSI Systems	NSERC	(EXT) 02
	See LI, H.F.		
	See LI, H.F. (Dean of Engineering)		
RADHAKRISHNAN, T.	*Distributed Processing and Man-Machine Communication, Multiple and Cooperating Expert Systems, Computer Applications for Physically Handicapped*		
	Case Based Knowledge Acquisition Techniques	ANOCC	(EXT) 02
	Distributed Processing and Man-Machine Communication	NSERC	(EXT) 02
	Design and Prototyping of a Time Management Expert System for a Geographically Distributed Corporation	ZUNIQ	(EXT) 02
	Cooperating Expert Systems and Man-Machine Communication	ZUNIQ	(EXT) 02
	See LI, H.F.		
	See SUEN, C.Y.		
REGENER, E.	*Algorithmic Graph Theory*		
	See LAM, C.		
SADRI, F.	*Database Systems, Deductive Databases, Distributed Databases, Object-Oriented Systems, Algorithms*		
	Query Processing and Data Dependencies in Deductive Databases	NSERC	(EXT) 02
	See GOYAL, S.		
	See LI, H.F.		

SHINGHAL, R.	*Artificial Intelligence, Automated and Expert Reasoning, Optical Character Recognition Natural Language Interfaces*		
	Verification and Validation of Expert Systems	NSERC	(INT) 02
	Optical Character Recognition and Text Processing	NSERC	(EXT) 02
	See SUEN, C.Y.		
SUEN, C.Y.	*Computational Linguistics, Computational Studies of Languages, Handwriting Generation, Pattern Recognition, Man-Machine Interaction*		
	Research in Character Recognition	ANONC	(EXT) 02
	Evaluation of Expert Systems	NSERC	(INT) 02
	Prototyping a Multiple-expert OCR Machine (Strategic - Group) (Jayakumar, R., Krzyzak, A., Li, H.F.)	NSERC	(EXT) 02
	Computer Recognition of Characters and Digitized Patterns, and their Applications	NSERC	(EXT) 02
	Segmentation des images, reconnaissance des formes, et traitement des documents (Kasvand, T., Krzyzak, A., Rakhakrishnan, T. Shinghal, R.)	FCAR FCAR	(EXT) 02 (EXT) 03
	Character Recognition and Expert Systems	FCAR	(INT) 03
	Automatic Evaluation of Expert Systems	BC	(EXT) 01
TAO, L.	*Parallel Processing, Graph Mapping, Programme Mapping, Parallel Software Portability, Data Routing, Discrete Optimisation*		
	Programme Mapping for Improving Parallel Portability	NSERC	(EXT) 02
ZHANG, C.	*VLSI Algorithm, Design and Testing, Computer Architecture and Arithmetic, Cryptography, A.I. Applications to VLSI Design and Testing*		
	VLSI Design and Evaluation for RNS Systems, Systematic Approach for Mapping Algorithms into Systolic Arrays	NSERC	(EXT) 02

AHMAD, M.	*Multidimensional Digital Signal Processing, Algorithms and Architectures for Image Processing, VLSI Digital Circuit Design*		
	Design and Implementation of Parallel Signal and Image Processing Algorithms	NSERC	(INT) 03
	Multidimensional Signal Processing and its Implementation Using Multimicroprocessor Architecture	NSERC	(EXT) 02
	See LI, H.F. (Dean of Engineering)		
AL-KHALILI, A.	*VLSI System Design, Microprocessor Applications, VLSI Architecture, Circuit Optimization, Silicon Compilation, CAD, Fault Tolerant Computing*		
	1) Digital Signal Processing for Flaw Identification in Offshore Oil Structures 2) Effects of GaAs Technology on Computer Architecture	NSERC	(EXT) 02
	See LI, H.F. (Dean of Engineering)		
	See PATEL, R.		
AL-KHALILI, D.	*VLSI System Design*		
	Automodelling of High Performance CMOS Cell Libraries	NSERC	(EXT) 02
BENYAMIN-SEEYAR, A.	*Communication Systems*		
	Forward Error-Correcting Capability of Error-Trapping Technique for Cyclic Codes	NSERC	(EXT) 02
BHATTACHARYYA, B.	*Circuits and Systems, Analog VLSI Circuits, Microelectronic Analog Circuits*		
	Analysis and Design of Analog and Digital Electrical Networks	NSERC	(EXT) 02
COMEAU, M.	*Distributed and Parallel Computing, Computer Network Performance Evaluation, Routing in Communications Networks, Computer Networks*		
	Distributed Protocol Design, PLA Folding and Performance Studies for Communication Networks	NSERC	(EXT) 02
ELHAKEEM, A.	*Digital Communication, Satellite Switching, Satellite Networks, Voice Encryption, VLSI, Telecommunications, Optical Signals*		
	Codulation and Access Techniques for Secure Wideband Networks	NSERC	(EXT) 02

ELHAKEEM, A.	A Token Ring Adapter for the 16 Mb/s N.T. Twisted Pair LAN	ANOCC	(EXT) 02
	A Study of Suitable Access Protocols for a Hubless VSAT Satellite Network Operating in an Integrated Digital Services Environment	SPAR	(EXT) 02
	See LE-NGOC, T.		
FARUQUE, S.	*VLSI System Design*		
	1) VLSI Systems 2) An Improved S to Z Transformation	NSERC	(EXT) 02
GRACOVETSKY, S.	*Automatic Diagnosis of Spinal Disorders*		
	Computer Diagnosis of Lumbar Spine Disabilities	NSERC	(EXT) 02
HAROUN, B.	*VLSI Architectures*		
	High Level Synthesis and Implementation of VLSI Architectures for DSP, Numerical and Neural Network Applications	CASA	(INT) 02
	See LI, H.F. (Dean of Engineering)		
HAYES, J.	*Local and Metropolitan Area Networks, Broadband Optical Communication Systems, Communication Networks*		
	Protocol Development and Performance Analysis for an Optical Fiber Local Backbone Network (Mehmet Ali, M., Sarikaya, B.)	FCAR	(EXT) 02
	Optical Fiber Local Backbone Networks (Cooperative R & D with Memotec Data Inc.)	NSERC	(EXT) 02
	Studies of Optical Communications Systems	NSERC	(EXT) 02
JOOS, G.	*Power Electronics, Electrical Drives, Electrical Machines*		
	L'apprentissage de l'électronique industrielle par la simulation (Programme de recherche-développement pour les formateurs) (Boyd, G., Department of Education)	MESS	(EXT) 02
	Power Electronic Control of Electrical Drives	NSERC	(EXT) 02
	High Speed Data Acquisition and Monitoring	NSERC	(INT) 03
	See LINDSAY, J.		
KHORASANI, K.	*Nonlinear Control Systems, Robust Stability, Flexible Joint and Link Manipulator, Modelling and Control, Large Scale Systems, Neural Networks*		
	Modelling and Control of Large Scale Nonlinear Systems	NSERC	(EXT) 02
	Mathematical Modelling and Control of Large Scale Systems with Applications to Flexible Joint Robots	FCAR	(EXT) 02

KROLIK, J.	*Digital Signal Processing, Sensor Array Processing, Sonar, Radar Systems, Communications*		
	High Resolution Multiple Broadband Source Location	NSERC	(EXT) 02
	High Resolution Broadband Adaptive Beamforming via Focussing Techniques	CDND	(EXT) 01
	Efficient High Resolution Beamforming for Broadband Sonar Arrays	FCAR	(EXT) 02
KUBINA, S.	*Computational Methods in Electromagnetics, Avionics Systems and Antennae, Electromagnetic Compatibility*		
	Aircraft Electromagnetic (EMC) Prediction Techniques - Phase III	CDND	(EXT) 01
	EMC Laboratory (Infrastructure) (Trueman, C.)	NSERC	(EXT) 20
	HF Scattering Models of Ships and Aircraft - Phase I	CDND	(EXT) 01
	Radiating Systems on Complex Structures and Electromagnetic Compatibility	NSERC	(EXT) 02
	Electromagnetic Compatibility Analysis for Aircraft Antennas - Phase III	CDND	(EXT) 01
LE-NGOC, T.	*Digital Communications, Wireless Point-to-Multipoint Communication Systems, Modulation, Multiple Access Techniques*		
	Signal Processing Communications Techniques	CASA	(INT) 02
	Efficient Modulation, Coding and Multiple-Access Techniques (Elhakeem, A.)	FCAR	(EXT) 02
	Efficient Digital Point-to-Multipoint Communications Systems	NSERC	(EXT) 02
	Research in Communications	TELC	(EXT) 02
LINDSAY, J.	*Motor Drives, Switched Reluctance Motors, Temperature Rise of Machines, Unbalanced Sources*		
	Improved Variable Speed Drive Systems Based on Induction, Permanent Magnet and Switched Reluctance Motors	NSERC	(EXT) 02
	Nouvelles approches à la conception des convertisseurs de puissance appliqués aux entrainements électriques (Joos, G., Ziogas, P.)	FCAR FCAR	(EXT) 02 (EXT) 03

LOMBOS, B.	*Thermal Stability of S.I. GaAs for IC's, Hetero-epataxial GaAs/Ge Solar Cells for Hard Satellite Power Supplies*		
	Deep Level Transient Spectroscopy	NSERC	(INT) 02
	Mise au point et étude de nouveaux matériaux pour la telécommunication optique: laser-infrarouge, détection et emission infrarouge (Cooperation France-Québec)	MRIAI	(EXT) 02
	Detecteurs infrarouge extrinsique de SI GaAS (Cooperation France-Québec)	MRIAI	(EXT) 02
	GaAs and Semimagnetic Semiconductors	NSERC	(EXT) 02
MANIAS, S.	*Power Electronics*		
	Switch-Mode Rectifiers	NSERC	(EXT) 02
MEHMET ALI, M.	*Local Area Networks, Broadband Switching, Application of Neural Networks to Communications*		
	Studies in Local Areas and Related Areas	NSERC	(EXT) 02
	See HAYES, J.		
PAKNYS, R.	*Antennas and Microwaves, Numerical Methods in Electromagnetics, Electromagnetic Compatibility*		
	Extensions to GTD Modelling for Mutual Coupling Analysis of Aircraft Antennas	CASA	(INT) 02
PATEL, R.	*Robotics, Control Systems, Neural Networks, Robot Simulation, Intelligent Control, Robot Vision, Numerical Techniques, CAD/CAM*		
	Electrical and Computer Engineering Robotics Research Facility (Infrastructure) (Al-Khalili, A.J.)	NSERC	(EXT) 20
	Numerical and Computational Issues in Robotics and Control	NSERC	(EXT) 02
	Kinematics and Dynamics of Robot Manipulators	NSERC	(INT) 02
PLOTKIN, E.	*Signal Processing, Circuits and Systems, Communications, Parameter Estimation, Adaptive and Nonlinear Filtering*		
	Biomedical Signal Processing	NSERC	(INT) 02
	Studies in Structural Signal Processing	NSERC	(EXT) 02

RAMACHANDRAN, V.	*Multivariable Networks, Two-Dimensional Digital Filters, Approximation of 1-D and 2-D Group Delay*		
	Two-Dimensional Digital Filters	NSERC	(INT) 02
	A Study of Multivariable Networks with Applications to Two-Dimensional Digital Filtering	NSERC	(EXT) 02
REZA, F.	*Circuit and System Theories - Communications, Applied Mathematics Operator Theory, Stability, Foundations of Optimization and Robotics*		
	Operator Theoretic Foundations of Circuits and Systems-Optimization	NSERC	(EXT) 02
SARIKAYA, B.	*Communication Protocols, Specification Techniques, Performance Evaluation and Validation, Protocols for Future Networks, Software Testing*		
	Research on Protocol Specification, Validation and Performance	NSERC	(EXT) 02
	See HAYES, J.		
SCHWELB, O.	*Integrated Optics, Microwave Theory, Surface Acoustic Wave Devices*		
	Wave Propogation in Integrated Surface Wave Devices	NSERC	(EXT) 02
SOOD, V.	*HVDC Inverters, AC Filter Design*		
	Force-Commutated HVDC Inverters and AC Filter Design	NSERC	(EXT) 02
SWAMY, M.N.S.	*Digital Signal Processing, Network Theory and Design, Signal Processing*		
	2-D Digital Filters	FCAR	(INT) 02
	Studies on Electrical Networks and Signal Processing	NSERC	(EXT) 02
	See LI, H.F. (Dean of Engineering)		
THULASIRAMAN, K.	*Graph Theory and Algorithms, VLSI Design*		
	Distributed and Parallel Systems	CASA	(INT) 02
	Design and Performance Evaluation of Distributed Algorithms for Network Optimization Problems (Cooperative R &z D with Bell-Northern Research)	NSERC	(EXT) 02
	See LI, H.F. (Dean of Engineering)		
	VLSI Algorithms for Network Optimization, Distributed Fault Diagnosis, Minimum-Cost Network Design, Optimal and Fault-Tolerant Broadcasting	NSERC	(EXT) 02

TRUEMAN, C.	*Numerical Methods in Electromagnetics, Radar Cross-Section of Aircraft at HF, Broadcast Antenna and Power Line EMC at MF*		
	Computer-Aided Antenna Analysis - Methodology and Applications	NSERC	(EXT) 02
	See KUBINA, S.		
XU, Z.	*Parallel Processing*		
	Parallel Algorithms and Computer Architectures for Machine Learning	CASA	(INT) 02
ZIOGAS, P.	*UPS - Switch Mode Power Supplies, Solid State Var Compensators, Input Power Factor Correction*		
	Development of an Advanced Variable Frequency High Voltage Solid State Power Supply (Cooperative Research and Development Grant with Inverpower Controls Ltd.)	NSERC	(EXT) 02
	Analysis and Design of High Performance 3-Phase PWM Rectifiers	FCAR	(INT) 02
	Next Generation Switch Mode Solid State Power Supplies	NSERC	(EXT) 02
	See LINDSAY, J.		

AHMED, A.	*Vehicle System Dynamics, Railway Vehicle Stability and Curving, Advance Passive and Semi-Active Shock and Vibration*		
	Vehicle System Stability and Handling	NSERC	(EXT) 02
	See SANKAR, S.		
BHAT, R.	*Mechanical Systems, Rotor Dynamics, Random Vibrations, Modal Testing, Boundary Characteristic Orthogonal Polynomials*		
	Dynamics of Rotors Supported on Fluid Film Bearings	NSERC	(INT) 02
	Instrumentation Tape Recorder (Latinovic, V., Osman, M., Rakheja, S., Sankar, S., Vatistas, G.)	NSERC	(EXT) 03
	1) Structural Dynamics & Optimization with Probabilistic Design Methods Under Acoustic and Mechanical Excitations 2) Problems in Rotor Dynamics	NSERC	(EXT) 02
	See OSMAN, M.		

BLACH, A.	*Pressure Vessel Design, Heat Exchanger Design, Composite Material Pressure Vessels*		
	Stress Analysis and Methods of Design for Pressure Vessel Components	NSERC	(EXT) 02
	See HOA, S.		
BULGAK, A.	*Design Optimization and Analysis of Flexible Assembly Systems, Performance Evaluation of Manufacturing Systems*		
	Models for Design and Quality/Productivity Improvement of Flexible Assembly Systems	CASA	(INT) 02
CHENG, R.	*Industrial Control Systems, Adaptive Control of Robotic Manipulators, Automatic-Guided Vehicles Using Camera Vision*		
	Microprocessor Control of Mechanical Systems (Hemami, A., Krepec, T., Lequoc, S. Svoboda, J.)	FCAR	(EXT) 02
	Applied Research in Fluid Control and Automation	NSERC	(EXT) 02
	Research and Development of an Ambidextrous Automatic Guided Vehicle using Camera Vision for Path Guidance and Control (Strategic - Group) (Sankar, T.S.)	NSERC	(EXT) 02
	Flexible Automation Applications	CASA	(INT) 02
	Second Robot Arm for an Intelligent Multi-Robot Workcell (Lequoc, S.)	NSERC	(EXT) 03
	On-line Quality Control Equipment	FCAR	(INT) 03
DUKKIPATI, R.	*Guided Vehicle Systems*		
	Research in Mechanical Systems with Special Emphasis on Dynamics of Guided Vehicle Systems	NSERC	(EXT) 02
FABRIKANT, V.	*Applied Mathematics, Solid Mechanics, Potential Theory, Integral Equations, Numerical Methods, Classical Mechanics, CAD, Elasticity*		
	Studies in Solid Mechanics, with Application to Contact and Crack Problems	NSERC	(EXT) 02
GOUW, G.	*Biomedical Engineering, Human Factors/ Ergonomics, Industrial Engineering*		
	Biomechanical Engineering of Mechanical Systems: Halo Systems for Rehabilitation	NSERC	(EXT) 02
	Three Dimensional Sonic Digitizer (Rakheja, S.)	NSERC	(EXT) 03

HABASHI, W.	*Transonic Flows, Finite Element Methods, Turbomachinery Flows, Computational Aerodynamics, Vector and Parallel Supercomputers*		
	Computational Fluid Dynamics of the 3-D Euler and Navier-Stokes Equations by the Finite Element Method	NSERC	(EXT) 02
	Large Scale CFD Technology on Vector and Parallel Supercomputers (Strategic)	NSERC	(EXT) 02
	Parallel Computational Fluid Dynamic System (Bui, T.D., Department of Computer Science, Sarraf, S., Department of Civil Engineering, Vatistas, G.)	NSERC	(EXT) 03
HEMAMI, A.	*CAD/CAM, Control Systems, Robotics, Simulation, Computer Control, Mobile Robots, Tracking Systems, Mathematical Modelling and Simulation*		
	Dynamic Analysis of Robotic Systems	NSERC	(INT) 02
	Studies of a Scheme for Obstacle and Singularity Avoidance in Robot Manipulator	NSERC	(EXT) 02
	See CHENG, R.M.H.		
HOA, S.	*Composite Materials and Structures, Stress Analysis, Finite Element Method*		
	Repair of Thermoplastic Composites	NSERC	(INT) 02
	A Study on the Effects of Repair Processing Variables on Mechanical Properties of Thermoplastic Composites	CDND	(EXT) 01
	Mecanique des materiaux composites polymeriques et des structures faites avec les materiaux composites polymeriques (Blach, A., Lin, S., Thimmardy, E.)	FCAR FCAR	(EXT) 02 (EXT) 03
	Vibration and Stress Analysis of Elastic and Viscoelastic Systems Under Various Loads and Environments	NSERC	(EXT) 02
	Effect of Degradation due to Fluid Content on the Reliability of Fiber Reinforced Plastic Vessels and Piping (Cooperative R & D with CPF Dualam Ltd.)	NSERC	(EXT) 02
	Le rapport entre le comportement 'émission acoustique', la marge de sécurité et le pronostic de 'vie utile' pour citernes en plastique arme soumises à des pressions internes et/ou externes (Actions concertées sur le transport des marchandises)	FCAR FCAR	(EXT) 02 (EXT) 03
	Conical Twin Screw Extruder	FCAR	(INT) 03
	Composite Work	ANOCC	(EXT) 02

JHA, V.	*Large Space Structures, Structural Analysis, Random Vibration, Optimization Techniques*		
	Analysis and Testing of Large Space Structures, Techniques of Correlating Test Results and Automated Updating of Models	NSERC	(EXT) 02
KRAKOW, K.	*Heat Pumps, Heating, Cooling and Refrigeration Systems, Computer Modelling*		
	Heat Pump Energy Conversion Systems	NSERC	(EXT) 02
KREPEC, T.	*Fuel Control Systems for Combustion Engines, Gaseous Fuel Injection Systems, Fuel Injection and Combustion*		
	Simplified Electronic Fuel Controller	CASA	(INT) 02
	Low Cost Electronic Fuel Control for Small Gas Turbines of Remotely Piloted Vehicles (Cooperative R & D with Bendix Avelex Inc.)	NSERC	(EXT) 02
	New Concepts for On-Board Storage, Direct Injection and Ignition of Gaseous Fuels in Automotive Combustion Engines	BENDA	(EXT) 01
	Research in New Concepts of Electronic Fuel Control Systems for Combustion Engines	NSERC	(EXT) 02
	See CHENG, R.M.H.		
LATINOVIC, V.	*Deep-Hole Machining, Metal Cutting Processes, Expert Systems*		
	Optimal Multi-Pulse BTA Tools	NSERC	(EXT) 02
	See BHAT, R.		
	See OSMAN, M.		
LEQUOC, S.	*Robotic Manipulators, Control of Mechanical Systems*		
	Applied Research in Robotics and Automation	NSERC	(EXT) 02
	See CHENG, R.M.H.		
LIN, S.	*Heat and Mass Transfer, Fluid Mechanics, Heat Pumps*		
	Determination of Approximate Heat Transfer Coefficients for Electronics Components on Printed Circuit Boards, and Determination of Approximate Pressure Loss Coefficients for Analysis of Air Flow in Electronics Boxes	MAYA	(EXT) 02
	Transport Phenomena and their Applications	NSERC	(EXT) 02
	See HOA, S.		

McQUEEN, H.	*Hot Working of HSLA and Stainless Steels, Thermo-Mechanical Processing of Al alloys, Materials for Solar Thermal Collectors*		
	Hot Working Characteristics Constitutive Equations and Rolling Schedule Simulation of Single Phase and Precipitate Bearing Alloys	NSERC	(EXT) 02
	Metallurgical Films and Research	ANOPC	(EXT) 02
NEEMEH, R.	*Shock Wave Physics and Related Phenomena, Unsteady Wave Motion in Compressible Flow, Aerodynamic Resonators, Tubes and Waves*		
	Stability of Converging Shock Waves - Aerodynamic Resonators - Ignition by Oscillating Shock Waves	NSERC	(EXT) 02
OSMAN, M.	*Machine Tool Dynamics, Tribology, Metal Cutting, Mechanism and Gear Transmissions*		
	Recherche sur les systèmes mécaniques -	FCAR	(EXT) 02
	1) Synthèse de mécanismes pour le profilage de surfaces	FCAR	(EXT) 03
	2) Réponse de systèmes mécaniques soumis a des perturbations déterministes et aléatoires		
	(Bhat, R., Latinovic, V., Sankar, T.S., Vatistas, G., Xistris, G.)		
	Dynamics of Mechanical Systems in Manufacturing	NSERC	(EXT) 02
	See BHAT, R.		
RAKHEJA, S.	*Computer-Aided Design, Vehicle Dynamics, Optimization and Vibration Control in System Design*		
	Computer-Aided Design and Analysis of Mechanical Systems with Special Reference to Ground Vehicles	NSERC	(EXT) 02
	Design of an Effective Cab Suspension to Attenuate Terrain Induced Off-Road Vehicle Vibrations	IRSST	(EXT) 02
	Conception et analyse dynamique des systèmes et sous-systèmes de véhicules	FCAR FCAR	(EXT) 02 (EXT) 03
	See BHAT, R.		
	See GOUW, G.		
	See SANKAR, S.		

SABER, A.J.	*Aerospace Propulsion, Combustion, Environmental Management*		
	Starting Submerged Gas Jets	NSERC	(EXT) 02
	Preliminary Definition of Experiments and Procedures for Terrestrial and Space Examination of Flame Structure	NRC	(EXT) 01
	Planar Imaging of Combustor Flows	PRATT	(EXT) 02
	Portable Computer Systems	TOSHIBA	(EXT) 03
SANKAR, S.	*Vehicle System Dynamics, Vibration Control, CAD/CAM, Vehicle Engineering, Vehicle Structure*		
	CONCAVE (Concordia Computer-Aided Vehicle Engineering Research) - (Soutien au renforcement des liaisons universites-industries et de la recherche dite de transfert)	MESS	(EXT) 02
	Research on Battery Pack Vibration	NORTEL	(EXT) 02
	Identification des concepts de suspension active et semiactive pour vehicules lourds minimisant les charges dynamiques et les dommages aux chaussées	FCAR	(EXT) 02
	1) Computer-Aided Optimal Design of Mechanical Systems 2) vibration of Continuous Mechanical Systems: Optimization and Control	NSERC	(EXT) 02
	Recherche en conception de système Véhicule assistée par ordinateur pour l'industrie du transport du Quebec (Actions structurantes)	MESS	(EXT) 02
	Research on Vehicle System Dynamics and Design (Ahmed, A., Rakheja, S.)	FCAR	(EXT) 02
	Développement, évaluation en laboratoire et design optimal d'une suspension latérale pour siège de véhicule tout terrain	IRSST	(EXT) 02
	Étude des essieux orientables pour vehicules articules lourds et évaluation de leur manoeuvrabilité et stabilité directionnelle (Actions concertées sur le transport des marchandises)	FCAR	(EXT) 02
	Analytical Model for the Evaluation of Active and Semi-Active Suspensions for M113 Armoured Personnel Carrier	CDND	(EXT) 01
	Vehicle Structural Analysis	NSERC	(INT) 02
	Ride Quality Evaluation of M113 Armoured Personnel Carrier	CDND	(EXT) 01
	Research on Seat Design	ANOCC	(EXT) 02
	Vehicle Suspension Design	BOMC	(EXT) 02
	See BHAT, R.		

SANKAR, T.S.	*Mechanical and Robotic Systems, Stochastic Dynamics and Reliability, Vibration Control and Diagnostics*		
	Dynamic Response and Reliability of Mechanical Systems under Deterministic and Stochastic Forces	NSERC	(EXT) 02
	Rotor Dynamics	NSERC	(INT) 02
	Methanol Fueled Corsica	ANONC	(EXT) 02
	Support of Concordia in the SAE Methanol Challenge	CEMR	(EXT) 02
	See CHENG, R.M.H.		
	See OSMAN, M.		
SVOBODA, J.	*Fluid Controls, Hydraulic Systems and Vehicle Simulators*		
	Research in Control Systems Technology and Applications	NSERC	(EXT) 02
	Development of Microprocessor Controlled "Smart Valve" System	RITE	(EXT) 01
	Development of Driving Simulator Enhancement and Performance Assessment Module	CDOT	(EXT) 01
	Investigation of Non-Return Valves for Fluid Handling	RITE	(EXT) 02
	See CHENG, R.M.H.		
THIMMHARDY, E.	*See HOA, S.*		
VATISTAS, G.	*Vortex Dynamics, Flow Instabilities, Liquid Sloshing, Space Sciences, Computational Fluid Dynamics*		
	Leading Edge Ramp Investigation	PRATT	(INT) 02
	The Dynamic Behaviour of Liquids in Space	FCAR	(EXT) 02
	Vortex Flows with Applications	NSERC	(EXT) 02
	See BHAT, R.		
	See HABASHI, W.		
	See OSMAN, M.		
XISTRIS, G.	*Preventive Maintenance and Reliability of Machinery, Digital Signal Processing, Shock, Noise and Vibration, Solid Mechanics*		
	Reliability of Mechanical Systems and Components Through Fatigue Damage Estimates	NSERC	(EXT) 02
	See OSMAN, M.		

What follows in this Directory of Funded Research Activities 1989-90 for the Faculty of Fine Arts is a small portion of the Faculty's contributions to new knowledge in the arts and cultural milieu.

Members of the full-time faculty are art historians, film scholars, art educators, art therapists, photographers, printmakers, sculpture, ceramic and fibres artists, painters, filmmakers, design artists, dancers, choreographers, musicians, conductors, theatre educators, stage and costume and lighting designers, actors, and directors. Their scholarly and creative activity is thus both rich and varied. It includes the preparation and dissemination of original work for group and for solo exhibitions in galleries and museums, film festivals, dance productions, theatre productions, concerts, scholarly journals, texts, and art magazines. Much of this work is funded by the artist/educator/writer or by commission. ■

FACULTY OF FINE ARTS

BYRNE, P.	Application of a Therapeutic Model to Art Therapy with Adolescent Abuse Victims	CASA	(INT) 02
FAIRCHILD, A.	*Aesthetic Response, Child Development, Museum Education, Curriculum Implementation*		
	Description and Analysis of Young Children's (aged 7-11) Aesthetic Responses and Comparison of these to Cognitive Development	ANOPC	(EXT) 02
MULLEN, C.	*Sociology of Art, Culture, and Art Education, Adult and Community-Based Art Education, Vernacular Art, Popular Arts, Women's Arts*		
	Community-based Art Education	ANOPC	(EXT) 02
PARISER, D.	*Giftedness and the Visual Arts, Early Drawings of Gifted/Famous Artists, Cross-Cultural Issues in Giftedness*		
	Examining the Concept of Artistic 'Giftedness' from a Cross-Cultural Perspective: Chinese Artists and Art Educators Look at Wang Yani's Painting	CASA	(INT) 02
PAIKOWSKY, S.	The "Rita Letendre: The Montréal Years" Exhibition	CC	(EXT) 02
JAMES, E.	*19th Century Canadian Architecture, Architecture of Thomas Walter, American mid-19th Century Architecture*		
	Funding to study the material on Thomas U. Walter, American architect, at the Philadelphia Athenaeum	SSHRC	(INT) 02
PAIKOWSKY, S.	*Canadian Art History - 19th and 20th C., Renaissance Art, Venetian Painting, Museology, Art Exhibitions, Publishing*		
	The Journal of Canadian Art History	FCAR SSHRC	(EXT) 02 (EXT) 02

FACULTY OF FINE ARTS CONT'D			
FALSETTO, M.	Analysis of the Films of Nicolas Roeg	CASA	(INT) 02
WAUGH, T.	*Documentary Canadian and Political Film, Sexual Representation, Gay/Erotic Film, Indian and Third World Cinema*		
	"Hard to Imagine" - Sexual Representation in Film and Photography	ANOPC	(EXT) 02
ZUCKER, C.	*Auteur Studies, Narratology, Film Performance, Contemporary Film Theory*		
	An Oral History of Contemporary American Film Acting	CASA	(INT) 02
HOMZY, A.	*Music, History, Theory, Composition, Jazz, History, Theory, Composition, Ellington, Mingus, Boland*		
	Music Cataloging	ANOPC	(EXT) 02
HUGHES, L.	Research on Women in Mathematics	CASA	(INT) 02
SZILASI, G.	Exploration of the Potential Collaborative Energy in the Use of Instant Polaroid Film	CC	(EXT) 02
LAYNE, B.	To Develop a New Procedure in Large-Scale Papermaking. To Develop a Body of Wall-Relief Work	CASA	(INT) 02
ALLISON-HELMS, N.	*Theatre, Music, Singing, Semiotics*		
	Research and Development of a Musical Theatre Production based on Canadian Oral History (Warren, B.)	CASA	(INT) 02
MACKAY, B.	*Drama Therapy with Incest Survivors Mask and Story in Drama Therapy, Ritual and Storymaking as Sources of Theatre*		
	Dramatherapy with Adolescents	ANOPC	(EXT) 02

WARREN, B.	*Drama, Theatre and Disabled Persons, Dramatherapy, Drama-in-Education, Popular Theatre, Theatre-in-Education*		
	Visiting Artists in Schools: Bert Amies, etc.	MGU TBC PSBGM	(EXT) 02 (EXT) 20 (EXT) 02
	50/50: A Theatre Company Integrating Disabled and Nondisabled Performers	MCLAN	(EXT) 02
	See ALLISON-HELMS, N.		